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ABSTRACT

Book 3 of the self-instructional manual for tumor registrars deals with tumor registrar vocabulary. It is designed to teach tumor registrars to recognize diagnostic terms versus treatment terms, terms that refer to anatomical sites, terms that refer to patient symptoms. The first three parts of the book are concerned with word roots, prefixes and suffixes. The next three parts are concerned with terms used in describing symptoms, physical findings, and illnesses of cancer patients. The last part is an alphabetical listing of common acronyms, abbreviations, and symbols used in medical charts. Each part uses a question and answer format with a pre- and post-test. (Author/BB)

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SELF INSTRUCTIONAL MANUAL for TUMOR REGISTRARS

SEER PROGRAM

BOOK 3

SE 024 971

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service National Institutes of Health

SELF-INSTRUCTIONAL MANUAL FOR TUMOR REGISTRARS

BOOK 3 – TUMOR REGISTRAR VOCABULARY: THE COMPOSITION OF MEDICAL TERMS

Original Prepared for the Louisiana Regional Medical Program

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LESSON BOOK #3

TUMOR REGISTRAR VOCABULARY:
THE COMPOSITION OF MEDICAL TERMS

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THE COMPOSITION OF MEDICAL TERMS

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SECTION A

OBJECTIVES AND CONTENT OF INSTRUCTIONAL PACKAGE 3

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OBJECTIVES AND CONTENT OF INSTRUCTIONAL PACKAGE 3

As a tumor registrar, you eventually will learn the meaning of hundreds, even thousands, of medical terms. For most of these words you will not need to know their exact definition. You will, however, need to be able to recognize diagnostic terms versus treatment terms, terms that refer to anatomical sites, terms that describe types of benign and malignant neoplasms, and terms that refer to patient symptoms.

Sections B, C, and D of this lesson book are concerned with word roots, prefixes and suffixes.

Sections E, F, and G of this lesson book are concerned with terms used in describing symptoms, physical findings, and illnesses of cancer patients.

Section H is an alphabetical listing of common acronyms, abbreviations, and symbols used in medical charts.

SECTION B

WORD ROOTS, SUFFIXES, AND PREFIXES

SECTION B

WORD ROOTS, SUFFIXES, AND PREFIXES

You probably already know that most English words are derived from some other language, such as Greek, Latin, French, or German. This is especially true of medical terms which usually are based on Greek or Latin words. For example, the word arthritis is based on the Greek word arthron (joint) + the Greek ending itis (inflammation of). In this course of instruction, you will not be asked to memorize long lists of terms. Instead you will learn the meaning of certain prefixes, suffixes, and roots that as word elements make up the common medical terms related to the diagnosis and treatment of cancer. Your knowledge of these word elements and how they are combined to form common medical terms should make even the most complicated medical terminology decipherable. For example, the word pericarditis can be broken down into its word elements as follows:

peri	+	card	+	itis
(prefix)		(root)		(suffix)

It means:

around	heart	inflammation

Several roots may be combined along with a prefix and/or suffix to form a word. For the sake of ease in pronunciation, a vowel (usually "o") may link the word elements. For example, bronchogenic is broken down into its word elements as follows:

bronch	+	o	+	gen	+	ic
(root)		(combining vowel)		(root)		(suffix)

It means:

windpipe	(o)	forming, producing	condition of

There are textbooks on medical terminology, and some of these contain quite a detailed discussion of the origin and make-up of medical terms. Also, your medical dictionary probably will contain a section on the fundamentals of medical etymology. At the very least, you should read this section of your dictionary paying special attention to the list of roots, prefixes, and suffixes.

etymology--The study of the history and development of a language

PRETEST ON WORD ROOTS

The following word roots will be discussed in this block of instructions. Can you recognize their correct definitions? Place the letter for the correct definition in the blanks to the left of each word root.

	Word Root	Definition
____	1. (an*)esthesio-	a. crab, cancer
____	2. bi(o)-	b. white
____	3. carcin(o)-	c. fat
____	4. hem(a)-	d. fluid substance of cells
____	5. gno-	e. to feel, perceive
____	6. leuk(o)-	f. tumor, relationship to tumor
____	7. lip(o)-	g. life
____	8. onc(o)-	h. nose
____	9. -plasm	i. flesh
____	10. rhin(o)-	j. to know
____	11. sarc(o)	k. blood
____	12. gastr(o)-	l. stomach
____	13. oste(o)-	m. urine
____	14. toxic(o)-	n. bone
____	15. urin-	o. poison

*a- or an-: A prefix signifying without (lack of) or not

ANSWERS TO PRETEST

Answer	Word Root	Definition	Example
e	1. (an)esthesio-	to feel, perceive	anesthesia
g	2. bi(o)-	life	biopsy
a	3. carcin(o)-	crab, cancer	carcinoma*
k	4. hem(a)	blood	hematology
j	5. gno-	to know	diagnosis
b	6. leuk(o)-	white	leukocyte
c	7. lip(o)-	fat	liposarcoma
f	8. onc(o)-	tumor, relationship to tumor	oncology
d	9. -plasm	fluid substance of cells	protoplasm
h	10. rhin(o)-	nose	rhinorrhea
i	11. sarc(o)	flesh	sarcoma
l	12. gastr(o)-	stomach	gastrointestinal
n	13. oste(o)-	bone	osteosarcoma
o	14. toxic(o)-	poison	toxicology
m	15. urin-	urine	urinalysis

*Although the root for this word means cancer or crab, in general usage carcinoma means a malignant epithelial tumor.

Medical terms can be divided into three basic word elements: prefixes, roots (or stems), and suffixes. The root or stem of a medical term usually has been derived from a Greek or Latin noun or verb. This root expresses the basic meaning of the term. However, often that meaning will be modified by the addition of a prefix (at the beginning of the word) or the addition of a suffix (at the end of the word). Frequently a root * a suffix will be used as a suffix and added to another root as a word ending. Some examples are -emia, -genic, -penia, and -pathy. However, two suffixes alone cannot be combined to form a word. Three common medical terms, their roots, and their root definitions are listed below.

Medical Term	Root	Root Definition
tonsillitis	tonsill	tonsil (Latin tonsilla)
thermal	therm	heat
prognosis	gno	to know

Q1

Check the medical terms in the following list whose roots have been underlined. Use your dictionary when you need to do so.

(✓)

- ☐ urinalysis
- ☐ lipoma
- ☐ histology
- ☐ pathology
- ☐ neoplasm
- ☐ carcinoma

Answer: Q1

The terms urinalysis, lipoma, pathology, and neoplasm have their roots underlined.

The root of a term may appear anywhere within the term:

1. at the beginning--e.g., urinalysis and lipoma
2. in the middle--e.g., prognosis and anesthesia
3. at the end--e.g., neoplasm and antitoxin

A prefix consists of one or two syllables placed before a word in order to modify the meaning of the word. Often these syllables are prepositions or adverbs. Prefixes are commonly used to help describe the appearance of, or the location of, an anatomical part. For example, the term adrenal, the name of a ductless gland above the kidney, is composed of the prefix ad, which means near, and a root renal, which means kidney. Combine the prefix and the root and you get a term that means "near the kidney." Listed below are a few of the prefixes used with common medical terms.

Medical Term	Prefix	Prefix Definition
hemiplegia	hemi-	half
hypodermic	hypo-	under
intramuscular	intra-	within

Q2

Check the medical terms in the following list whose prefixes are underlined.

(✓)

- ☐ antitoxin
- ☐ bilateral
- ☐ cytology
- ☐ prognosis
- ☐ intravenous
- ☐ gingivitis

Answer: Q2

The terms antitoxin, bilateral, prognosis, and intravenous have a prefix underlined. The other two terms are composed of a root followed by a suffix.

The prefix anti- means against, bi- means two (not life as in bi(o)), pro- means before or in front of, and intra- means within. The root word cyt(o) means cells and gingiv(o) means gums.

Q3

A true suffix refers to a syllable or a group of syllables attached to the end of a word root (or stem) to modify the meaning of the word root. By adding a suffix to a word root, one may change the meaning of a word, or merely change its grammatical function, i.e., create a noun or an adjective. Following are a few medical terms which contain commonly used suffixes:

Medical Term	Suffix	Suffix Definition
cuboid	-oid	like, resembling, in the form of
glucose	-ose	composed of carbohydrate
dermatitis	-itis	inflammation of
arthrosis	-osis	condition of
hematolysis	-lysis	breakdown, destruction of
cytology	-ology	study of

Check the medical terms in the following list whose suffixes have been underlined.

(✓)

☐ prognosis	☐ poliomyelitis	☐ leukemia
☐ hypodermic	☐ dysentery	☐ cervical

Answer: Q3

The terms prognosis, poliomyelitis, leukemia, and cervical have their suffixes underlined. The root -emia (blood) in the word leukemia is actually composed of a root plus a suffix: ((h)em = blood) + (ia = condition). Since it will invariably appear in this format (emia), we will not subdivide it into various components in this lesson book.

The prefix is underlined in hypodermic, and the root word is underlined in dysentery.

hypodermic — hyp(o) + derm + ic (under the skin)

dysentery — dys + enter(o) + y (painful intestine)

The basic forms of medical terms, with examples of each, are described below. Of course, any particular medical term may take on an almost infinite variety of combinations of these three basic forms:

1. A term may be composed of a root + a suffix. As examples:

   carcinoma: (carcin(o) = crab) + (oma = tumor)
   sarcoma: (sarc(o) = flesh) + (oma = tumor)
   cerebral: (cerebr = brain) + (al = pertaining to)

2. A word may be composed of a prefix + a root. As examples:

   neoplasm: (neo = new) + (plasm = fluid substance of cells)
   biped: (bi = two) + (ped = foot)
   dysfunction: (dys = bad, difficult, painful) + (function = normal action)

3. Many medical terms are composed of a prefix + a root + a suffix. As examples:

   hypoglycemia: (hypo = under) + (glyc = sugar) + (emia = blood)
   encephalitis: (en = in) + (cephal = head) + (itis = inflammation of)
   pericarditis: (peri = around) + (card = heart) + (itis = inflammation of)

Some medical terms are composed of two roots. As examples:

biostatistics: (bi(o) = life) + (statistics = numerical facts)
erythroblast: (erythr(o) = red) + (blast = germ cell)
microfilm: (micr(o) = small) + film

The combination of a word root plus a combining vowel as in bio-, erythro-, and micro- is known as the combining form. To indicate a word root and its usual combining vowel, but not in combining form, the vowel appears in parenthesis.

Q4

You already have learned some of the general terms associated with cancer patients and tumor registries. For instance, you have learned that the two basic types of cancer are called carcinomas and sarcomas. An analysis of the word elements of these terms follows:

Term	Word Element	Meaning
carcinoma	carcin	A root meaning cancer, crab
	oma	A suffix meaning tumor
sarcoma	sarc	A root meaning flesh, connective tissue
	oma	A suffix meaning tumor

Thus, you should recognize that terms such as chondroma, lipoma, and cystadenoma refer to _____.

Answer: Q4

tumors. The suffix oma means "tumor." Chondroma, lipoma, and cystadenoma are examples of benign tumors. Chondroma is a bone tumor, lipoma is a fat tumor, and cystadenoma is a tumor containing a sac or bladder.

Q5

You have learned also that the suffix ology means the "science of" or the "study of." Thus, psychology is the study of the mind or psyche. Hematology is the study of the blood (hem(a) is a root meaning blood). Therefore, knowing that the root onco means "tumor, relationship to tumor", you should be able to infer that the term "oncology" means:

(✓)

- ☐ a. The study of malignant growths.
- ☐ b. The study of benign tumors.
- ☐ c. The study of new growths.
- ☐ d. All of the above.

Answer: Q5

d--All of the above. The term oncology is a general term referring to the study of all types of benign and malignant growths or tumors.

Q6

The term neoplasm (neo + plasm) has been used often in this course of instruction. This term is composed of a single prefix and a single root. The root is neo/plasm. (Select one.)

The meaning of this root is new/fluid substance of cells. (Select one.)

Answer: Q6

You should have selected "plasm" as the root.
Plasm means "fluid substance of cells."
Neoplasm generally is defined as a new growth.

Q7

Now let us learn a few of the roots and suffixes associated with the symptoms of a patient with cancer. While doing this you will also learn a few root names for parts of the anatomy.

Suppose as the result of a cold, you have a runny nose. Your doctor might call this condition rhinorrhea:

rhin - a root meaning nose

rrhea - a suffix meaning flow, discharge

Which of the following terms would you say is a legitimate word?

(✓)

☐ a. rhinology

☐ b. itisology

Answer: Q7

a--Rhinology refers to the study of the nose. More important, however, you should remember that two suffixes cannot be combined to form a word. Itis and ology are both suffixes.

Q8

To review a bit--match the definitions on the right with the root or suffix on the left.

	Root/Suffix	Definition
_____	1. sarc	a. A suffix meaning new
_____	2. oma	b. A root meaning stomach
_____	3. onco	c. A suffix meaning tumor
_____	4. gastr	d. A root meaning flesh
_____	5. rrhea	e. A root meaning tumor, relationship to tumor
		f. A suffix meaning flow, discharge

Answer: Q8

	Root/Suffix	Definition
1--d	sarc	A root meaning flesh
2--c	oma	A suffix meaning tumor
3--e	onco	A root meaning tumor, relationship to tumor
4--b	gastr	A root meaning stomach
5--f	rrhea	A suffix meaning flow, discharge

POST-TEST

1. For each word listed below, is the underlined word element a root or a suffix?

   a. hemat<u>uria</u> _____

   b. osteo<u>genic</u> _____

   c. leukocyt<u>osis</u> _____

   d. cytopath<u>ology</u> _____

   e. mast<u>itis</u> _____

   f. cyto<u>plasm</u> _____

2. a. Which word means <u>like, resembling,</u> or <u>in the form of</u>?

      1. pathogenic
      2. keratosis
      3. lymphoid
      4. gastritis _____

   b. Which word refers to a <u>condition of</u>?

      1. enteritis
      2. lymphocytosis
      3. spondylolysis
      4. leukopenia _____

   c. Which word refers to the <u>breakdown of</u> or <u>destruction of</u> something?

      1. bronchitis
      2. ostealgia
      3. hysterolysis
      4. oncology _____

   d. Which word refers to a <u>carbohydrate</u>?

      1. myxorrhea
      2. cellulose
      3. mastalgia
      4. cephaloid _____

e. Which word refers to <u>flow</u> or <u>discharge</u> of something?

1. adenitis
2. gonorrhea
3. metrorrhagia
4. arthralgia _____

3. a. A word referring to <u>feeling, sensation</u>:

1. rhinopharyngeal
2. prognosis
3. anesthesia
4. enterolysis _____

b. A word referring to <u>white</u>:

1. rhabdosarcoma
2. hemangioma
3. leukocytosis
4. melanoma _____

c. A word referring to <u>flesh</u>:

1. oncogenesis
2. biopsy
3. hematemesis
4. sarcoma _____

d. A word referring to <u>know</u>:

1. pathology
2. diagnosis
3. biopsy
4. adipose _____

e. A word referring to <u>fat</u>:

1. osteosarcoma
2. lipoma
3. oncogenesis
4. mastectomy _____

ANSWERS TO POST-TEST

Question 1.

	Word Element	Type of Element
1a.	uria	a root
1b.	genic	a suffix
1c.	osis	a suffix
1d.	ology	a suffix
1e.	itis	a suffix
1f.	plasm	a root

Question 2.

2a. "3" -- lymphoid. -oid means like, resembling, in the form of

2b. "2" -- lymphocytosis. -osis refers to a condition of

2c. "3" -- hysterolysis. -lysis refers to the breakdown, destruction of something

2d. "2" -- cellulose. -ose refers to a carbohydrate

2e. "2" -- gonorrhea. -rrhea means flow, discharge

Question 3.

3a. "3" -- anesthesia. -esthesio- refers to feeling, sensation

3b. "3" -- leukocytosis. leuk(o)- refers to white

3c. "4" -- sarcoma. sarc(o) means flesh

3d. "2" -- diagnosis. gno- means to know; dia means through

3e. "2" -- lipoma. lip- refers to fat

SECTION C

COMMON SYMPTOMATIC SUFFIXES

There are thousands of major and minor things which can occur to a human body. Each disease and pathological condition is described by a specific medical term. Often similar symptoms and pathological conditions can occur in different parts of the body. It is convenient, therefore, to have word elements which describe certain common conditions. For example, the word element -algia means "pain" or "ache" which can be combined with other word elements referring to parts of the body. Thus, myalgia refers to a pain or ache in a muscle or muscles. The pretest on the next page lists 12 suffixes (or roots * suffixes used as suffixes) which often are components of words used to describe symptomatic conditions. Take this pretest and determine how many of these suffixes you can define.

PRETEST ON SYMPTOMATIC SUFFIXES

The following suffixes will be discussed in the next block of material. How many can you define?

	Suffix		Definition
____ 1.	-algia	a.	like, resembling, in the form of
____ 2.	-genic	b.	tumor
____ 3.	-itis	c.	forming, producing, or productive of
____ 4.	-lysis	d.	flow, discharge
____ 5.	-penia	e.	pain, ache
____ 6.	-oid	f.	destruction, breakdown of
____ 7.	-ology	g.	lack of, deficiency
____ 8.	-oma	h.	condition of
____ 9.	-ose	i.	burst forth, excessive flow
____10.	-osis	j.	study of
____11.	-rrhage	k.	inflammation of
____12.	-rrhea	l.	composed of carbohydrate

ANSWERS TO PRETEST

Answer		Suffix	Definition
__e__	1.	-algia	pain, ache
__c__	2.	-genic	forming, producing, or productive of
__k__	3.	-itis	inflammation of
__f__	4.	-lysis	destruction, breakdown of
__g__	5.	-penia	lack of, deficiency
__a__	6.	-oid	like, resembling, in the form of
__j__	7.	-ology	study of
__b__	8.	-oma	tumor
__l__	9.	-ose	composed of carbohydrate
__h__	10.	-osis	condition of
__i__	11.	-rrhage	burst forth, excessive flow
__d__	12.	-rrhea	flow, discharge

Q9

Probably you have heard of the term <u>neuralgia</u> which means to have a pain in a nerve (neuron). The suffix -<u>algia</u> means pain. Also, anyone who listens to TV has seen mouthwash ads which claim to prevent <u>halitosis</u>. In this word the root <u>halitus</u> means an expired breath and the suffix -<u>osis</u> means "condition of." With this information you should be able to determine that:

1. A nervous condition might be described by the term:

(✓)

- [ ] a. neurosis
- [ ] b. psychosis
- [ ] c. neither term
- [ ] d. both terms

2. An earache might be described by the term:

(✓)

- [ ] a. othygroma
- [ ] b. otalgia
- [ ] c. otitic
- [ ] d. othemorrhea

Answer: Q9

1. d--Both terms contain the suffix -osis which means condition of. The root elements neur(o) and psych(o) refer, respectively, to "nerve" and "mind."

2. b--Otalgia is the only term containing the suffix -algia which means painful, ache. Ot(o) is the word root for ear.

Q10

Metr(o) is a word root which refers to the uterus. The term meaning to have a discharge from the uterus is:

(✓)

- ☐ a. metritis
- ☐ b. metrorrhea
- ☐ c. metrorrhagia
- ☐ d. metralgia

Answer: Q10

b--metrorrhea, which is composed of:

metr(o) - a type of root meaning uterus
rrhea - a suffix meaning flow, discharge

Q11

Perhaps you have noticed that the suffix -rrhea seems to be similar to the suffix -rrhage which appears in such terms as hemorrhage. Well,

-rrhea means flow, discharge
-rrhage means to burst forth, excessive flow

Thus, you might describe an abnormal uterine hemorrhage a condition of (select one).

(✓)

☐ a. metrorrhea

☐ b. metrorrhagia

Answer: Q11

metrorrhagia--a bursting forth of blood from the uterus; uterine bleeding occurring at completely irregular intervals, the period of flow sometimes being prolonged.

You may be more familiar with the term menorrhagia which is composed of the word root for month (men(o)-) and the suffix rrhagia meaning excessive menstrual flow.

Already you have been introduced to the term pathology (pathos = disease) + (ology = the science of, the study of). You have also probably seen the term pathogenic, composed of the root path(o) and the suffix -genic. This suffix appears at the end of many medical terms and means forming, producing or productive of. Thus:

neurogenic means forming in nerves (neuro-)
osteogenic means forming in the bones (osteo-)
pathogenic means disease-producing (patho-)

Q12

Which of the above three words cannot be defined directly from a knowledge of the meaning of roots and suffixes? _____

Answer: Q12

pathogenic. A literal combination of root and suffix meanings would give the definition of "originating in the disease." You should not be surprised when the combined definitions of the elements of a medical term do not provide an exact definition of the term itself. Very often this will be the case. For example:

> anemia, with the prefix an-, meaning without, and the root -emia, meaning blood, is defined as "a deficiency of red blood cells" (not an absence of blood).

Q13

A term meaning "forming in the bronchi" is:

(✓)

- [ ] a. bronchitis
- [ ] b. bronchorrhagia
- [ ] c. bronchorrhaphy
- [ ] d. bronchogenic

Answer: Q13

d--bronchogenic. This term is composed of the root bronch(o) (windpipe) and the suffix -genic (forming). Notice that when two word elements are combined, letters may be added or dropped so as to make the term easier to pronounce. Typically, "when a stem ending in a consonant is joined by a suffix beginning in a consonant, either may be changed to create euphony (ease of pronunciation)." In other instances the stem may add an -o- or, if it ends in another vowel, change that vowel to an -o- before a suffix beginning with a consonant. (The vowels a, e, i, u and y may also be used as combining vowels.) As examples:

my(o) (muscle) + lysis (dissolution) = myolysis

hem(at) (blood) + ology (study of) = hematology

Q14

There are special books on medical vocabulary which describe the derivation and composition of medical terms. Suppose you knew that the term leukopenia was composed of the root leuko (meaning white) and the suffix -penia which you did not know. Use your dictionary to determine the definition of -penia.

Answer: Q14

You can find penia which is defined as a word termination indicating an abnormal reduction in number or a "lack." Thus, by inference, you define -penia as a deficient or decreased state or condition. Leukopenia means deficiency of white blood cells. Similarily the term cytopenia refers to deficiency in the cellular elements of the blood.

Q15

Sometimes you will encounter symptomatic terms such as lipoid and fibroid. According to your dictionary, the suffix -oid means:

(✓)

- [ ] a. road
- [ ] b. in the form of, like
- [ ] c. mouth
- [ ] d. circle

Answer: Q15

b--<u>oid</u> means like, resembling, in the form of. Thus, <u>lipoid</u> means fatty or fat-like: (lip = fat) + (-oid = in the form of).

Q16

A term meaning "deficiency of white blood cells" would most likely be:

(✓)

- ☐ a. leukemia
- ☐ b. leukocyte
- ☐ c. leukopenia
- ☐ d. leukemoid

Answer: Q16

c--leukopenia: (leuk(o)- = white) + (-penia = lack of, deficiency of).

Q17

To end this section, let us introduce you to the suffix -lysis which means "dissolution", or "breaking down." Thus, hemolysis: (hemo = blood) + (-lysis = breaking down) means a breaking down of red blood cells. Which of the following terms refers to the destruction or disintegration of something?

(✓)

- ☐ a. myolysis
- ☐ b. cytolysis
- ☐ c. hepatolysis
- ☐ d. all of the above
- ☐ e. none of above

Answer: Q17

d--all of above. All terms contain the suffix -lysis which means dissolution of, breaking down of. My(o) means muscle, cyt(o) means cells, and hepat(o) means liver.

Q18

Most of the suffixes covered so far can be combined with lip(o), the root meaning fat. Match the terms on the left with the definitions on the right.

Term		Definitions
___1.	lipoid	a. A tumor made up of fat cells.
___2.	lipoma	b. Forming, producing, or caused by fat.
___3.	lipomatosis	c. Fatlike, resembling fat.
___4.	lipogenic	d. A condition characterized by tumor-like fat accumulations in the tissue.

Answers: Q18

1. c: -oid means like, resembling, in the form of
2. a: -oma means tumor
3. d: -osis means condition of
4. b: -genic means forming, producing, or productive of

Term	Definition
lipoid	Fatlike, resembling fat
lipoma	A tumor made up of fat cells
lipomatosis	A condition characterized by tumor-like fat accumulations in the tissue
lipogenic	Forming, producing, or caused by fat

Q19

You also will find the word element leuk(o) (white) combined with many suffixes. Often the suffix will be added to the combination root leukocyte which means "white blood cell." Match the terms on the left with the definitions on the right.

Term		Definition
____1.	leukocytosis	a. Profuse leukorrhea
____2.	leukocytopenia	b. A condition characterized by an increase in white blood cells
____3.	leukocytolysis	c. Abnormal reduction in number of white blood cells
____4.	leukorrhagia	d. The destruction of leukocytes

Answers: Q19

1. b: -osis means condition of
2. c: -penia means deficiency of or decrease in
3. d: -lysis means the dissolution of or destruction of
4. a: --rrhagia refers to bursting forth, excessive flow of

Term	Definition
leukocytosis	A condition characterized by an increase in white blood cells
leukocytopenia	Abnormal reduction in number of white blood cells
leukocytolysis	The destruction of leukocytes
leukorrhagia	Profuse leukorrhea

Q20

1. All of us are familiar with gastrointestinal disorders. Thus, a stomachache might be described by a word ending with the suffix:

(✓)

- ☐ a. -genic
- ☐ b. -osis
- ☐ c. -oid
- ☐ d. -algia

2. Sometimes this will lead to a condition of "abnormal frequency and liquidity of fecal discharges." This condition is described by a term ending with the suffix:

(✓)

- ☐ a. -lysis
- ☐ b. -rrhage
- ☐ c. -rrhea
- ☐ d. -penia

Answer: Q20

1. d- -algia, a suffix meaning pain or ache. The medical term for stomachache is gastralgia: (gaster = stomach) + (-algia = pain).

2. c- -rrhea, a suffix meaning flow, discharge. The term diarrhea is used to describe a watery bowel movement. The prefix dia- means through, apart, across or between.

POST-TEST ON WORD ROOTS AND SYMPTOMATIC SUFFIXES

You began the study of Sections B and C by taking a Pretest. The following Post-test should provide you with a good indication as to whether or not you now know the meaning of each of the word elements covered in Sections B and C. Match the word elements listed on the left with the definitions listed on the right:

Word Elements		Definitions	
___ 1.	-lysis	a.	crab, cancer
___ 2.	hem(a)-	b.	flesh
___ 3.	rhin(o)-	c.	white
___ 4.	onc(o)-	d.	tumor
___ 5.	-itis	e.	to know
___ 6.	-osis	f.	fat
___ 7.	carcin(o)-	g.	like, resembling, in the form of
___ 8.	-rrhea	h.	composed of carbohydrates
___ 9.	gno-	i.	fluid substance of cells
___10.	-ose	j.	lack of, deficiency
___11.	-genic	k.	flow, discharge
___12.	leuk(o)-	l.	to feel, perceive
___13.	-oid	m.	burst forth, excessive flow
___14.	-ology	n.	destruction, breakdown of
___15.	lip(o)-	o.	tumor, relationship to tumor
___16.	-rrhage	p.	blood
___17.	(an)esthesio-	q.	inflammation of
___18.	-plasm	r.	life
___19.	-algia	s.	forming, producing, or productive of
___20.	-oma	t.	condition of
___21.	sarc(o)-	u.	nose
___22.	bi(o)-	v.	study of
___23.	-penia	w.	painful, ache

ANSWERS TO POST-TEST

Answers	Word Elements	Definitions
n	1. -lysis	destruction, breakdown of
p	2. hem(a)-	blood
u	3. rhin(o)-	nose
o	4. onc(o)-	tumor, relationship to tumor
q	5. -itis	inflammation of
t	6. -osis	condition of
a	7. carcin(o)-	crab, cancer
k	8. -rrhea	flow, discharge
e	9. gno-	to know
h	10. -ose	composed of carbohydrate
s	11. -genic	forming, producing, or productive of
c	12. leuk(o)-	white
g	13. -oid	like, resembling, in the form of
v	14. -ology	study of
f	15. lip(o)-	fat
m	16. -rrhage	burst forth, excessive flow
l	17. (an)esthesio-	to feel, perceive
i	18. -plasm	fluid substance of the cell
w	19. -algia	painful, ache
d	20. -oma	tumor
b	21. sarc(o)-	flesh
r	22. bi(o)-	life
j	23. -penia	lack of, deficiency

SECTION D

COMMON DIAGNOSTIC SUFFIXES

There are numerous suffixes commonly used with diagnostic terms. Terms using these suffixes will be found in the record of a patient's history and physical examination. An understanding of the meaning of these suffixes will help you abstract the medical records. First take the pretest below. A similar test will be given at the end of this block of instruction.

PRETEST ON DIAGNOSTIC SUFFIXES

Match the suffixes listed on the left with the definitions listed on the right.

Suffixes	Definitions
____ 1. -cele	a. inflammation of
____ 2. -emia	b. stricture, narrowing
____ 3. -ectasis	c. hernia, protrusion
____ 4. -(i)asis	d. falling
____ 5. -itis	e. blood
____ 6. -plegia	f. stroke, blow, paralysis
____ 7. -polesis	g. expansion, dilatation
____ 8. -rrhexis	h. condition, formation of
____ 9. -stenosis	i. rupture
____10. -ptosis	j. production of

ANSWERS TO PRETEST

Answer	Suffixes	Definition
c	1. -cele	hernia, protrusion
e	2. -emia	blood
g	3. -ectasis	expansion, dilatation
h	4. -(i)asis	condition, formation of
a	5. -itis	inflammation of
f	6. -plegia	stroke, blow, paralysis
j	7. -poiesis	production of
i	8. -rrhexis	rupture
b	9. -stenosis	stricture, narrowing
d	10. -ptosis	falling

Q21

Cyst(o)- is a word root meaning "bladder or sac." Which of the following terms means inflammation of the bladder?

(✓)

- ☐ a. cystolithiasis
- ☐ b. cystitis
- ☐ c. cystocele

Answer: Q21

b--cystitis means inflammation of the bladder. The suffix -itis means inflammation of.

The term cystolithiasis (iasis = formation of + lith = stone) means a condition associated with the formation of bladder stones or calculi. The term cystocele (-cele = hernia, protrusion) means a hernial protrusion of the urinary bladder through the vaginal wall.

You will note that the suffix "-(i)asis" and the suffix "-osis" are both forms of the ending "-sis" meaning state or condition of.

Q22

Laryng(o) is a word root meaning larynx. Select the term below that refers to paralysis of the muscles of the larynx. Use your dictionary if you have to, or study the answers to the Pretest.

(✓)

☐ a. laryngitis

☐ b. laryngocele

☐ c. laryngoplegia

Answer: Q22

c--laryngoplegia, which means paralysis of the muscles of the larynx. The suffix -plegia means stroke, blow, paralysis.

Q23

The suffix -rrhexis means rupture. A ruptured spleen would be referred to as:

(✓)

- [ ] a. gastrorrhexis
- [ ] b. hepatorrhexis
- [ ] c. neither
- [ ] d. either

Answer: Q23

c--neither. Splenorrhexis is the term for ruptured spleen.

Gastrorrhexis means rupture of the stomach: (gastr(o) = stomach) + (-rrhexis = rupture). Hepatorrhexis means rupture of the liver: (hepat(o) = liver) + (-rrhexis = rupture).

Q24

The word root bronch(o) is derived from the term bronchus which is a branch of the trachea or windpipe. Inflammation of the bronchial tubes would be known as:

(✓)

- [ ] a. bronchiectasis
- [ ] b. bronchostenosis
- [ ] c. bronchitis

Answer: Q24

c--bronchitis, the term for inflammation of the bronchial tubes. The suffix -itis means inflammation of.

Bronchiectasis (-ectasis = dilatation) is a term meaning dilatation of a bronchus. Bronchostenosis (-stenosis = stricture, narrowing) means stricture or abnormal diminution of the caliber of a bronchial tube.

Q25

You learned that the suffix -cele is used to refer to a hernia or protrusion. As an example, a hernial protrusion of a part of the pharynx would be called a pharyngocele. Match the terms on the left with the definitions on the right. Use your dictionary if you need to do so.

Term	Definition
____ 1. esophagocele	a. A protrusion of the rectum into the vagina
____ 2. gastrocele	b. A hernial protrusion of the bladder through the vaginal wall
____ 3. proctocele	c. A hernia containing a loop of intestine
____ 4. enterocele	d Esophageal hernia
____ 5. cystocele	e Hernia of the stomach

Answer: Q25

Answer	Term	Definitions
__d__	1. esophagocele	Esophageal hernia
__e__	2. gastrocele	Hernia of the stomach
__a__	3. proctocele	Protrusion of the rectum into the vagina (Also known as rectocele)
__c__	4. enterocele	A hernia containing a loop of intestine
__b__	5. cystocele	A hernial protrusion of the bladder through the vaginal wall

Q26

The suffix -ectasis, meaning expansion or dilatation, is used to indicate the abnormal dilatation or expansion of a structure or an organ of the body--for example:

1. Angiectasis is defined as a dilatation of a blood vessel (angi = blood vessel).

2. Bronchiectasis is defined as a chronic dilatation of the bronchi or bronchioles.

3. Pharyngectasis is defined as a hernial protrusion (dilatation) of a part of the pharynx.

So, the suffix -ectasis means expansion or dilatation. Which of the words listed below has a meaning very similar to the term pharyngectasis?

(✓)

☐ a. pharyngoplegia

☐ b. pharyngocele

☐ c. pharyngostenosis

Answer: Q26

b--pharyngocele (-cele = hernia, protrusion), a term for a hernial protrusion of a part of the pharynx. Pharyngoplegia (-plegia = paralysis) means paralysis of the muscles of the pharynx. Pharyngostenosis (-stenosis = constriction, narrowing) means a narrowing of the lumen of the pharynx.

Terms like hematuria, hemoptysis, and hemorrhage begin with the word root hem- which means blood. This root also is used as a suffix and when so used, the syllable -ia is added to it to produce -hemia. Thus, the term polycythemia means abnormal increase of red blood cells and hemoglobin in the blood. Sometimes the h is omitted, such as in the word hyperglyc(h)emia which means abnormally high blood sugar.

Q27

Can you think of a condition with the suffix -emia which is characterized by an abnormal reduction in red blood cells? _____

Answer: Q27

anemia: (an = not) + ((h)em = blood) + (ia)

A root word for red is erythr(o). Deficiency of red blood cells is known as erythropenia.

Q28

You should now be able to recognize the meaning of the following suffixes. Match the suffix on the left with the definition on the right.

Suffix	Definition
____ 1. -cele	a. expansion, dilatation
____ 2. -emia	b. condition, formation of
____ 3. -itis	c. hernia, protrusion
____ 4. -plegia	d. stroke, blow, paralysis
____ 5. -rrhexis	e. inflammation of
	f. blood
	g. falling
	h. constriction, narrowing
	i. rupture

Answer: Q28

Answer	Suffix	Definition
__c___	1. -cele	hernia, protrusion
__f___	2. -emia	blood
__e___	3. -itis	inflammation of
__d___	4. -plegia	stroke, blow, paralysis
__i___	5. -rrhexis	rupture

You have seen the term bronchiectasis (bronch = bronchial tubes of the lung) + (-estasis = expansion, dilatation). This is a condition characterized by the chronic dilatation of the bronchi. The suffix -ectasis means dilatation; the suffix -stenosis means constriction or narrowing. Therefore, a condition opposite to bronchiectasis would be bronchostenosis--the stricture or abnormal diminution of the caliber (diameter) of the bronchi.

Q29

Select the word which is described in each of the following statements:

a. Emphysema, abnormal swelling or inflation of the lungs, is known also as pneumonectasis/pharyngostenosis. (Circle one.)

b. A tumor located near an artery could expand causing the artery to be constricted. Such a condition would be known as arteriostenosis/arteriectasis. (Circle one.)

Answer: Q29

You should have said:

a. pneumonectasis; -ectasis means dilatation, expansion, inflation. (See under -ectasia in your dictionary.) Pneum(o) means relationship to lung, air or to breath.

b. arteriostenosis; -stenosis means constriction or narrowing. Arteri(o) means artery.

You know that two different medical terms can have the same meaning. Two different suffixes can also have the same or similar meanings. An example is the suffix -(i)asis (condition of, formation of, presence of) and the suffix -poiesis (formation of, production of). Some words using these two terms are:

1. lithiasis--formation of stones

2. nephrolithiasis--formation of stones in the kidney

3. hemopoiesis--the formation and development of blood cells

Sometimes, -poiesis will be changed to another form by using -tic instead of -sis, as in the word hematopoietic.

Q30

Match the terms on the left with the definitions on the right.

Term	Definition
____ 1. broncholithiasis	a. A condition marked by the presence of kidney stones
____ 2. gastrolithiasis	b. Presence or formation of calculi or other concretions in the stomach
____ 3. cholelithiasis	c. Condition in which calculi are formed in the bronchi
____ 4. pneumolithiasis	d. The presence of concretions in the lungs
____ 5. nephrolithiasis	e. Condition associated with the formation of gallstones

Answer: Q30

Answer	Term	Definition
__c__	1. broncholithiasis	Condition in which calculi are formed in the bronchi
__b__	2. gastrolithiasis	Presence or formation of calculi or other concretions in the stomach
__e__	3. cholelithiasis	A condition associated with the formation of gallstones
__d__	4. pneumolithiasis	The presence of concretions in the lungs
__a__	5. nephrolithiasis	Condition marked by the presence of kidney stones

Q31

The suffix -<u>osis</u> means condition of. Another suffix meaning "condition of" is:

(✓)

- [ ] a. -ectasis
- [ ] b. -itis
- [ ] c. -(i)asis
- [ ] d. -stenosis

Answer: Q31

c--(i)asis

Q32

Some of the things which can happen to the body are listed below in the left column. Based on your knowledge of the meaning of suffixes, match these descriptions with the technical terms on the right.

	Definition	Term
___	1. A shrinkage of the stomach	a. pneumonectasis
___	2. A prolapse of the uterus	b. gastrostenosis
___	3. Protrusion of a part of the pharynx	c. thoracostenosis
___	4. Dilatation of the bronchi	d. bronchiectasis
___	5. Emphysema of the lung	e. pharyngocele
___	6. Abnormal contraction of chest wall	f. metroptosis

Answer: Q32

Answer	Definition	Term
b	1. A shrinkage of the stomach	gastrostenosis
f	2. A prolapse of uterus	metroptosis
e	3. Protrusion of a part of the pharynx	pharyngocele
d	4. Dilatation of the bronchus	bronchiectasis
a	7. Emphysema of the lung	pneumonectasis
c	8. Abnormal contraction of chest wall	thoracostenosis

Q33

To complete this instructional section, assume that a student has just taken the test which appears at the beginning of this block of instruction. The student's answers are presented below. State which answers are correct and which are incorrect.

Your Answer	Suffix	Student's Answer
_____	1. -cele	hernia, protrusion
_____	2. -ectasis	rupture
_____	3. -emia	blood
_____	4. -(i)asis	condition, formation of
_____	5. -itis	inflammation of
_____	6. -plegia	stroke, blow, paralysis
_____	7. -poiesis	production of
_____	8. -ptosis	falling
_____	9. -rrhexis	stricture, narrowing
_____	10. -stenosis	expansion, dilatation

Answer: 033

Answer	Suffix	Correct Answer
correct	1. -cele	hernia, protrusion
incorrect	2. -ectasis	expansion, dilatation
correct	3. -emia	blood
correct	4. -(i)asis	condition, formation of
correct	5. -itis	inflammation of
correct	6. -plegia	stroke, blow paralysis
correct	7. -poiesis	production of
correct	8. -ptosis	falling
incorrect	9. -rrhexis	rupture
incorrect	10. -stenosis	stricture, narrowing

SECTION E

TUMOR REGISTRAR VOCABULARY: COMPLAINTS AND SYMPTOMS

A medical chart is composed of a number of sections. The first section contains a description of the patient's complaints and symptoms, the medical history of the patient, the findings of a physical examination of the patient, and the impressions of the examining physician regarding the diagnosis of the patient's illness.

You should be cautioned that each medical chart will be slightly different. The order in which information is recorded will be slightly different and sometimes certain items of information will be omitted. It must also be noted that medical practitioners are not noted for their penmanship. Indeed, perhaps one of the most difficult aspects of medical chart abstracting is deciphering the physician's handwriting.

The first entry in the chart is usually a description of the chief complaint (CC) of the patient, i.e., the reason the patient sought medical attention. The description of the present illness (PI) which follows includes a description of the onset of the illness and the symptoms associated with it. In the following pretest you will find many words which are used to describe common symptoms. See how many of them you can match. If you have trouble, use your medical dictionary.

PRETEST ON COMPLAINTS AND SYMPTOMS

This block of instructions will cover 16 medical terms. Some of these terms you may know already. To find out for yourself which ones you know, take the pretest below. It is quite similar to the one you will take at the end of this section.

	Terms		Definitions
___ 1.	acromegaly	a.	Loss of appetite
___ 2.	angina pectoris	b.	Inability to breathe except in an upright position
___ 3.	anorexia	c.	Sudden loss of strength, as in fainting
___ 4.	diarrhea	d.	Spitting up or coughing up of blood
___ 5.	dysphagia	e.	Abnormal enlargement of extremities
___ 6.	dyspnea	f.	Abnormal frequency of intestinal discharge
___ 7.	dysuria	g.	Difficult breathing
___ 8.	hematemesis	h.	Passage of black, bloody stool
___ 9.	hematuria	i.	Itching
___ 10.	hemoptysis	j.	A disease condition marked by brief paroxysmal attacks of chest pain caused by deficient oxygenation of heart muscles
___ 11.	hirsutism	k.	Abnormal hairiness, especially in women
___ 12.	melena	l.	Painful urination
___ 13.	nocturia	m.	Discharge of blood in the urine
___ 14.	orthopnea	n.	Difficulty in swallowing
___ 15.	pruritus	o.	The vomiting of blood
___ 16.	syncope	p.	Excessive urination at night

ANSWERS TO PRETEST

__e__	1.	acromegaly	Abnormal enlargememnt of extremities
__j__	2.	angina pectoris	A diseased condition marked by brief paroxysmal attacks of chest pain caused by deficient oxygenation of heart muscles
__a__	3.	anorexia	Loss of appetite
__f__	4.	diarrhea	An abnormal frequency of intestinal discharge
__n__	5.	dysphagia	Difficulty in swallowing
__g__	6.	dyspnea	Difficult breathing
__l__	7.	dysuria	Painful urination
__o__	8.	hematemesis	The vomiting of blood
__m__	9.	hematuria	Discharge of blood in the urine
__d__	10.	hemoptysis	Spitting up or coughing up of blood
__k__	11.	hirsutism	Abnormal hairiness, especially in women
__h__	12.	melena	Passage of black bloody stools
__p__	13.	nocturia	Excessive urination at night
__b__	14.	orthopnea	Inability to breathe except in an upright position
__i__	15.	pruritus	Itching
__c__	16.	syncope	Sudden loss of strength, as in fainting

Some form of unusual bleeding or discharge is often associated with cancer of the digestive system or respiratory system. Some type of hemorrhaging might occur which appears as blood in the urine (hematuria) or as bloody stools (melena). Also, the patient might be spitting up blood, a condition known as hemoptysis. Four terms describing some type of unusual bleeding are:

<u>hematuria</u>
hem(a)--a stem meaning blood
ur--a stem referring to urine
ia--a suffix meaning condition of

Definition: Condition of blood in the urine

<u>hemoptysis</u>
hemo--a stem meaning blood
pty--a stem referring to saliva
sis--a suffix referring to condition of

Definition: A condition characterized by the spitting up or coughing up of blood

<u>melena</u>
from "melas," a root meaning black

Definition: The passage of black, tarry stools containing blood. (When blood oxidizes it becomes black.)

<u>hematemesis</u>
hem(a)--a stem meaning blood
emesis--a suffix meaning to vomit

Definition: The vomiting of blood

Q34

A 52-year old male has experienced a marked loss of weight during the past month. He denies loss of appetite but on occasion has coughed up blood. He denies a history of ulcers or any previous history of internal hemorrhaging.

What are the two symptoms contained in the above description?

1._____ 2._____

Answer: Q34

The symptoms are:

1. Weight loss.

2. Coughing up blood (hemoptysis).

One of the early signs of lung cancer or cancer of the pharynx or larynx might be a persistent cough or hoarseness. This may be accompanied by swallowing difficulty.

The terms cough and hoarseness are familiar terms but the term dysphagia probably is not. Dysphagia is made up of:

dys--a prefix meaning bad, difficult, painful
phag--a stem meaning to eat
ia--a suffix meaning condition of

The prefix dys is a very important one; memorize it. Dysphagia means difficulty in eating or swallowing.

Q35

A patient's symptoms were as follows: anorexia; loss of weight; pallor. He denied any passing of blood in the urine. He denied evidence of bloody stools or dysphagia. Based on these symptoms, are the following statements TRUE or FALSE? (Circle one.)

T F a. The patient had loss of appetite.

T F b. The patient had difficulty swallowing.

T F c. The patient had hematuria.

Answer: Q35

a. True. "Anorexia" means loss of appetite.

b. False. "Denied dysphagia" means patient denied swallowing difficulty.

c. False. "Denied any passing of blood in the urine" means patient denied hematuria.

Q36

What does the prefix "dys" mean? _____

Answer: Q36

The prefix dys means bad, difficult, painful--for example, dysphagia means difficulty or pain in swallowing.

Q37

The prefix dys is used frequently, and you will often have occasion to look in your medical dictionary for the meaning of a term beginning with dys. Approximately 300 such words are listed in your dictionary. Suppose you encountered the terms dyschezia, dysopia, and dystaxia. What does each term mean?

a. dyschezia:_____

b. dysopia:_____

c. dystaxia:_____

Answer: Q37

a. dyschezia--Painful or difficult evacuation of feces

b. dysopia--Defective vision

c. dystaxia--Difficulty in controlling voluntary movement

Often a cancer patient will report he experienced a general weakness or loss of strength, or a feeling of fatigue. The term syncope refers to a sudden loss of strength which often results in fainting or loss of consciousness. If a patient says he has had dizzy spells but has not fainted, this can be recorded as dizzy spells. However, if a sudden loss of strength (possibly with fainting or loss of consciousness) was reported, this is referred to as syncope.

Q38

A 35 year-old male has experienced hoarseness for more than four months. He has found it increasingly difficult and painful to swallow. In the past week, he began having breathing difficulties (dyspnea). About three months ago, he experienced some dizziness, and he fainted during one of these episodes. However, these spells have not occurred for the past two months.

What symptoms might be recorded in the medical record?

Answer: Q38

a. hoarseness

b. difficulty swallowing (dysphagia)

c. breathing difficulties (dyspnea)

d. dizziness, fainting spells (syncope)

There are several conditions considered precursors of cancer of the skin--for example, burn scars, chronic skin ulcers, or inflammatory lesions that do not seem to heal. Such conditions are considered signs or symptoms of possible skin cancer and, therefore, are examined periodically.

Perhaps you have heard of instances where a wart or a mole became cancerous. The moles to be watched carefully are the dark brown or blue-black moles, slightly raised from the skin. These are particularly dangerous when they are located so that they are irritated by friction from a collar or belt, or when they are on the feet. Moles or warts that are irritated or show a tendency to change in color or size should be examined immediately by a physician.

Q39

A 58 year-old man noticed the development of dry, scaly patches on the back of his hand. On two or three occasions within the past month, he rubbed off portions of this scaly layer and bleeding occurred. Eventually, this condition was diagnosed as basal cell carcinoma. What is the significant symptom?_____

Answer: Q39

The significant symptom is a scaly patch of skin that bleeds when rubbed.

Several cancerous conditions are associated with the symptoms of indigestion or difficulty in swallowing. Swallowing difficulties and indigestion are common enough so that a variety of medical terms exists for describing these conditions. These terms include:

nausea and/or vomiting
anorexia (lack of appetite)
dysphagia (difficulty in swallowing)

The term anorexia might be new to you. It can be analyzed as follows:

an--a prefix meaning lack of, without
orexia--Greek root meaning appetite

Q40

A patient's symptoms include a cough and a vague chest pain; some coughing up of blood. He denies any swallowing problems. Are the following statements about this patient TRUE or FALSE?

T F a. The patient is hemorrhaging.

T F b. The patient has dysphagia.

T F c. The patient has hemoptysis.

Answer: Q40

a. False. The patient may be hemorrhaging but you cannot tell this from the description of the symptoms.

b. False. The patient does not have swallowing difficulty.

c. True. The patient is coughing up blood.

Breathing problems are common for certain types of lung and respiratory system malignancies. The terms which refer to various types of breathing difficulties are:

angina pectoris

Definition: A condition characterized by feelings of suffocation and/or spasms of pain in the chest (See pre-test for causal definition.)

dyspnea
dys--bad, painful, difficult
pne(o)--to breathe
a--condition of

Definition: Difficult breathing, painful breathing

orthopnea
ortho--upright, straight
pne(o)--to breathe
a--condition of

Definition: Inability to breathe except in an upright position

Q41

Match the conditions on the left with the term on the right which best describes that condition:

A person who:		may have:
____ 1.	gets out of breath easily	a. angina pectoris
____ 2.	finds it difficult to swallow	b. anorexia
____ 3.	can't sleep unless sitting upright	c. dysphagia
____ 4.	has fainting spells	d. dyspnea
		e. dysuria
		f. hematuria
		g. melena
		h. orthopnea
		i. pruritus
		j. syncope

Answer: Q41

1. d--dyspnea
2. c--dysphagia
3. h--orthopnea
4. j--syncope

Changes in bladder and bowel habits often are associated with cancers of the urogenital and gastrointestinal systems of the body. Symptoms related to these changes are recorded as:

<u>diarrhea</u>
dia--through
rrhea--flow, discharge

Definition: Excessive frequency and looseness of bowel movements

<u>dysuria</u>
dys-difficult, painful
uria--referring to a characteristic of urine

Definition: Difficult or painful urination

There are a number of terms used to describe bladder or urinary symptoms. Dysuria (difficult or painful urination) might be described as urinary irritation. Other terms you might encounter in a chart include:

1. urinary frequency--continual need to urinate
2. urinary urgency--constant feeling of the need to urinate
3. urinary obstruction--slow stream that seems to be due to an obstruction
4. nocturia--need to urinate frequently during the night

Q42

A variety of diseases, including bladder or prostatic cancer, may produce urinary symptoms. Such difficulties include:

a. A weak or interrupted flow of urine
b. The need to urinate often
c. Inability to or difficulty in urinating
d. Blood in the urine
e. Painful or burning urination

Which words define these five symptoms? (A term may be used more than once.)

a._____

b._____

c._____

d_____

e._____

Answer: Q42

a. Urinary obstruction or hesitancy

b. Urinary frequency

c. Dysuria

d. Hematuria

e. Dysuria

Q43

The term <u>acromegaly</u> refers to an abnormal growth of the extremities. The term is composed of:

acro--a combining form meaning at the extremities
megal(o) (or mega)--a root word meaning enlargement
y--a suffix ending meaning characterized by

Acromegalia is a condition caused by hypersecretion of the pituitary growth hormone after maturity and characterized by enlargement of the extremities of the skeleton--the nose, jaws, fingers, and toes.

What do the following terms mean?

a. Cardiomegaly_____

b. Hepatomegaly_____

c. Splenomegaly_____

Answer: Q43

a. Cardiomegaly--enlargement of the heart

b. Hepatomegaly--enlargement of the liver

c. Splenomegaly--enlargement of the spleen

Terms that refer to conditions brought about by a change in the function of endocrine glands include:

1. hormonal effect--a general phrase to describe any condition that seems to be the result of changes in endocrine gland functions

2. hirsutism--abnormal hairiness, especially in women

The precocious physical development of prepubic youngsters is sometimes associated with the development of tumors that change the function of the endocrine glands. Also, tumors of the endocrine glands can lead to the condition known as hirsutism (abnormal hairiness, especially in women).

hormonal--Pertaining to a chemical substance (hormone) produced in one organ and producing a specific regulatory effect in another organ

endocrine glands--Glands which secrete a hormonal substance into the blood, e.g., adrenal glands, thyroid glands, or pituitary glands

Q44

A 20 year-old, obese female has stopped menstruating (amenorrhea) and has gained 30 pounds during the past six months. Her hair distribution has begun to acquire the characteristics of those of a male. How would you describe these symptoms?

a._____

b._____

c._____

Answer: Q44

a. --amenorrhea
b. --30 pound weight gain
c. --hirsutism

Suffixes are added to words to incorporate additional meanings into the word. Some of the suffixes most relevant to the vocabulary of a tumor registrar are listed below. You should read the definition of each term used to illustrate the use of the suffix, but do not memorize them now. You will learn their meanings later in the training program.

1. These suffixes are used to indicate repeat action:

   -itate--e.g., irritate: to stimulate repetitively, to tease

   -tate--e.g., agitate: to move repeatedly, to stir

2. These suffixes are used to indicate the agent which performs the act:

   -ist--e.g., anesthetist: one who administers anesthesia
   -ter--e.g., sphincter: that which constricts

3. These suffixes are used to indicate the surgical procedure done:

   -ectomy--e.g., gastrectomy: excision or removal
   -otomy--e.g., duodenotomy: incision into

This is just a brief introduction to the medical terminology used in diagnostic and operative procedures. You will learn a great deal more such terminology in the lesson book on therapy.

3. There are many suffixes that indicate "the act of" or "the condition resulting from the action." Those you will encounter often are listed and used below.

-ion--e.g., lactation: secretion of milk by mammary glands

-tus--e.g., diabetes mellitus: a disease that impairs the ability of the body to use sugar

-sus--e.g., pulsus: the result of beating; the pulse

-xus--e.g., plexus: an interlacing; the result of turning or braiding

-sia--e.g., acro-esthesia: increased sensitiveness; pain in extremities

-sis--e.g., hemoptysis: a condition characterized by by the spitting up or the coughing up of blood

-tion--e.g., aglutition: inability to swallow

-ence--e.g., excrescence: the result of an outgrowth

-itus--e.g., pruritus: intense itching

The phrase "no general symptoms" sometimes will be described by the term asymptomatic (without symptoms). It is possible for a person to be examined for some problem not related to cancer, and the examination will reveal the presence of cancer. Also, cancer might first be diagnosed during a routine physical exam.

POST-TEST ON COMPLAINTS AND SYMPTOMS

Match each of the terms on the left with one of the definitions listed on the right.

Terms	Definitions
_____ 1. acromegaly	a. Difficulty in swallowing
_____ 2. angina pectoris	b. Discharge of blood in the urine
_____ 3. anorexia	c. Painful urination
_____ 4. diarrhea	d. Abnormal hairiness, especially in women
_____ 5. dysphagia	e. A diseased condition marked by brief paroxysmal attacks of chest pain caused by deficient oxygenation of heart muscles
_____ 6. dyspnea	f. Itching
_____ 7. dysuria	g. Passage of black, bloody stools
_____ 8. hematemesis	h. Difficulty in breathing
_____ 9. hematuria	i. Abnormal frequency of intestinal discharge
_____ 10. hemoptysis	j. Abnormal enlargement of extremities
_____ 11. hirsutism	k. Spitting up or coughing up of blood
_____ 12. melena	l. Sudden loss of strength, as in fainting
_____ 13. nocturia	m. Inability to breathe except in an upright position
_____ 14. orthopnea	n. Loss of appetite
_____ 15. pruritus	o. The vomiting of blood
_____ 16. syncope	p. Excessive urination at night

ANSWERS TO POST-TEST

	Terms	Definitions
__i__ 1.	acromegaly	Abnormal enlargement of extremities
__e__ 2.	angina pectoris	A diseased condition marked by brief paroxysmal attacks of chest pain caused by deficient oxygenation of heart muscles
__n__ 3.	anorexia	Loss of appetite
__j__ 4.	diarrhea	Abnormal frequency of intestinal discharge
__a__ 5.	dysphagia	Difficulty in swallowing
__h__ 6.	dyspnea	Difficult breathing
__c__ 7.	dysuria	Painful urination
__o__ 8.	hematemesis	The vomiting of blood
__b__ 9.	hematuria	Discharge of blood in the urine
__k__ 10.	hemoptysis	Spitting up or coughing up of blood
__d__ 11.	hirsutism	Abnormal hairiness, especially in women
__g__ 12.	melena	Passage of black, bloody stools
__p__ 13.	nocturia	Excessive urination at night
__m__ 14.	orthopnea	Inability to breathe except in an upright position
__f__ 15.	pruritus	Itching
__l__ 16.	syncope	Sudden loss of strength, as in fainting

SECTION F

TUMOR REGISTRAR VOCABULARY: PHYSICAL FINDINGS

SECTION F

TUMOR REGISTRAR VOCABULARY: PHYSICAL FINDINGS

The next portion of the chart contains the previous medical history (PMH). This subsection contains information about previous illnesses, accidents, medications, and the presence or absence of allergies.

Following the previous medical history (PMH), you usually find information about the family history (FH) and the social history (SH) of the patient. The family history describes the history of cancer and other diseases in the patient's family. The subsection on social history should contain information about smoking, use of alcohol and drugs, birth control pills, and other possible carcinogens. Sometimes this subsection will include work history, especially if the patient has worked in environments that might be conducive to the development of cancer.

The review of systems (ROS) comprises the next section of the chart. During this review, the physician systematically questions the patient about his well-being, problems associated with head, ears, eyes, nose, throat (HEENT); heart, chest; gastrointestinal (GI) tract, and genitourinary (GU) system problems; symptoms that might be related to neurological dysfunction; and unusual bleeding tendencies (hematopoietic problems).

The next portion of the chart contains the physical examination (PE) of the patient. It begins with a general description of the patient's condition together with a recording of vital signs.

The physical examination begins with the head, eyes, ears, nose, and throat (HEENT) and moves downward, covering such areas as the neck, chest, heart (cardiac), vascular system, lungs, abdomen, genitals, rectum, extremities, and lymph nodes. A general check is then made of the musculoskeletal and nervous systems.

The medical history and physical examination section of a chart often end with the physician's impression of the diagnosis.

In the following pretest you will find many words which are used to describe physical findings. See how many of them you can match. If you have trouble, use your medical dictionary.

PRETEST ON PHYSICAL FINDINGS

Following is a pretest for the medical terms that might be found in the physical examination. Match the definitions listed on the right with the medical terms listed on the left.

	Term	Definition
_____ 1.	adenopathy	a. Disease of lymph nodes
_____ 2.	arterial obstruction	b. Loss of ability that can be associated with some type of dysfunctioning of brain tissue
_____ 3.	ascites	c. Enlargement of the spleen
_____ 4.	auscultation	d. Destruction of liver cells
_____ 5.	cachexia	e. Loss of a capability that can be associated with a nerve which begins in the spinal column
_____ 6.	cardiomegaly	f. General physical wasting and malnutrition
_____ 7.	cranial nerve paralysis	g. Blockage in the arteries
_____ 8.	dermatitis	h. Presence of fluid in the pleural space
_____ 9.	edema	i. Paleness, absence of skin coloration
_____ 10.	hepatolysis	j. Loss of a capability that can be associated with a malfunction of a cranial nerve
_____ 11.	hepatomegaly	k. Accumulation of serous fluid in the abdominal cavity
_____ 12.	hypersplenism	l. Disease of glands
_____ 13.	jaundice	m. Enlargement of the liver
_____ 14.	lymphadenopathy	n. Blockage in the veins
_____ 15.	necrosis	
_____ 16.	pallor	
_____ 17.	paralysis of brain origin	

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____	18.	percussion	o. The act of listening to sounds within the body to determine the condition of the heart, lungs, and other organs
____	19.	phonocardiography	
____	20.	pleural effusion	p. Abnormal accumulation of serous fluid in connective tissue or serous cavity
____	21.	spinal cord paralysis	
			q. Death or decay of cells or tissues in part of the body
____	22.	splenomegaly	
____	23.	venous obstruction	r. Abnormal enlargement of the heart
			s. Inflammation of the skin
			t. Excessive activity of the spleen
			u. Tapping or striking on the body to determine, from sounds produced, the condition of internal organs
			v. Yellowish pigmentation of the skin, tissues, and body fluids caused by deposition of bile pigments
			w. Graphic recording of heart sounds

ANSWERS TO PRETEST

	Term	Definition
__i__ 1.	adenopathy	Disease of glands
__g__ 2.	arterial obstruction	Blockage in the arteries
__k__ 3.	ascites	Accumulation of serous fluid in the abdominal cavity
__o__ 4.	auscultation	The act of listening to sounds within the body to determine the condition of the heart, lungs, and other organs
__f__ 5.	cachexia	General physical wasting and malnutrition
__r__ 6.	cardiomegaly	Abnormal enlargement of the heart
__j__ 7.	cranial nerve paralysis	Loss of a capability that can be associated with a malfunction of a cranial nerve
__s__ 8.	dermatitis	Inflammation of the skin
__p__ 9.	edema	Abnormal accumulation of serous fluid in connective tissue or serous cavity
__d__ 10.	hepatolysis	Destruction of liver cells
__m__ 11.	hepatomegaly	Enlargement of the liver
__t__ 12.	hypersplenism	Excessive activity of the spleen
__v__ 13.	jaundice	Yellowish pigmentation of the skin, tissues, and body fluids caused by deposition of bile pigments
__a__ 14.	lymphadenopathy	Disease of the lymph nodes

Con't on next page

__g__	15.	necrosis	Death or decay of cells or tissues in part of the body
__i__	16.	pallor	Paleness, absence of skin coloration
__b__	17.	paralysis of brain origin	Loss of ability that can be associated with some type of dysfunctioning of brain tissue
__u__	18.	percussion	Tapping or striking on the body to determine, from sounds produced, the condition of internal organs
__w__	19.	phonocardiography	Graphic recording of heart sounds
__h__	20.	pleural effusion	Presence of fluid in the pleural space
__e__	21.	spinal cord paralysis	Loss of a capability which can be associated with a nerve that begins in the spinal column
__c__	22.	splenomegaly	Enlargement of the spleen
__n__	23.	venous obstruction	Blockage in the veins

Physical Findings

The terms ascites, edema, and pleural effusion refer to the abnormal accumulation of fluids in some portions of the body. Their specific definitions are as shown below:

ascites: accumulation of serous fluid in the abdominal cavity

edema: abnormal accumulation of serous fluid in connective tissue or a serous cavity

pleural effusion: the presence of fluid in the pleural space

The serous fluid referred to above is a watery, thin, pale yellow fluid that often looks like serum.

The accumulation of fluid in a body cavity can occur for a variety of reasons. When this condition occurs and when one of the parts located within or adjacent to the cavity becomes cancerous, there is a good probability that some of the cancer cells will detach themselves from their primary location and float in the serous or pleural fluid. Eventually they may attach themselves to some other organ or site bathed by that fluid. This is one of the primary means by which cancer is transferred from one organ or site to the other. It also is one of the main reasons why cancer of a site in or adjacent to the thoracic, abdominal, or pelvic cavity is difficult to manage.

Q45

Abnormal accumulations of fluid may occur in any one of the cavities of the body. These cavities contain the organs of the body. You should be able to answer the true-or-false questions below.

(Circle correct answer.)

T F a. The condition of ascites could allow a primary cancer of the stomach to metastasize to the liver.

T F b. The unusual accumulation of fluid around the muscles of the arm is an example of ascites.

T F c. Pleural effusion in the right pleural cavity will, in all probability, lead to brain metastasis.

Answer: Q45

a. TRUE--Ascites refers to the accumulation of fluid in the abdominal cavity. The liver is located in the abdominal cavity. It is quite possible, therefore, that cancerous cells originating in the stomach can break through the stomach wall, enter the fluid in the abdominal cavity, and eventually attach themselves to some other organ housed within the abdominal cavity.

b. FALSE--This would be an example of edema, the abnormal accumulation of fluid in connective tissues.

c. FALSE--The pleural cavity and the cranial cavity are not connected. Therefore, there is no way for fluid that originated in the pleural cavity to enter the cranial cavity.

Brain metastasis is possible, but not by this route.

Q46

In a previous block of instruction, you learned the meaning of the term <u>acromegaly</u>, and you were informed that the suffix <u>megaly</u> was an important one. What is the definition of this suffix?

_____

Answer: Q46

The suffix -megaly means enlargement. The term acromegaly is defined as an abnormal enlargement of the extremities.

Three terms ending with -megaly are listed and defined as follows:

cardiomegaly--abnormal enlargement of the heart

hepatomegaly--abnormal enlargement of the liver

splenomegaly--abnormal enlargement of the spleen

There are various reasons why organs of the body may become enlarged, and many of these reasons are not related to malignant neoplasms. None the less, when present they will be reported as part of the physical findings.

Q47

Assuming that a patient has the condition known as ascites, could the fluid involved in this condition be associated with the organ referred to in the term hepatomegaly? YES. NO. (Circle one.)

Answer: Q47

Yes. Ascites is the accumulation of fluid in the abdominal cavity. Hepatomegaly refers to enlargement of the liver; and, the liver is contained within the abdominal cavity.

For many medical terms the main body of the word indicates the organ or part of the body that is modified by a prefix or a suffix, or both. The combining forms for the words cardiomegaly, hepatomegaly, and splenomegaly are respectively:

cardio (heart)

hepato (liver)

spleno (spleen)

Each of these words is modified by a suffix which is made up of the combining form (mega = large) + a suffix ending (-ly) meaning characterized by.

Q48

Match the three terms listed on the left with the three definitions on the right:

	Term		Definition
_____	1. hypersplenism	a.	Destruction of liver cells
_____	2. phonocardiography	b.	Graphic recording of heart sounds
_____	3. hepatolysis	c.	Excessive activity of the spleen

Answer: Q48

1. c--hypersplenism: Hyper- is a prefix meaning excessive, above, overactive.

2. b--phonocardiography: This is a good example of how any number of elements can be combined to form new words.

   phon: root word
   o: combining vowel
   cardi: root word
   o: combining vowel
   graph: root word
   y: suffix ending

3. a--hepatolysis: You already have learned that the suffix -lysis means breakdown or destruction of.

An important part of any physical examination includes a thorough visual examination of the patient. During this time, the physician will note whether or not the patient is overweight (obese). In addition, the condition of the skin will be noted. Three terms referring to skin conditions are as follows:

dermatitis--inflammation of the skin

jaundice--yellowish pigmentation of the skin, tissues, and body fluids caused by the deposition of bile pigments

pallor--paleness; absence of skin coloration

A 65 year-old white male was admitted with suspected cancer of the larynx. At the time of admission, he was in good health except for a sore throat. With respect to the physical examination findings, his medical chart contained the following information:

Skin: Clear

HEENT: See diagram (Meaning: chart contained a diagram of the head, eyes, ears, nose, and throat)

Neck: Without nodes (Meaning: no palpable lymph nodes)

Chest: Clear to P and A (Meaning: percussion and auscultation revealed no abnormal conditions)

Heart: NSR without (M), thrill (Meaning: normal sinus rhythm (NSR) without murmur (M) or vibratory sensation (thrill))

ABD: Without palp. organs or masses (Meaning: by palpation, no enlarged organs, no masses in the abdomen)

Q49

Using the above information, answer the following questions by circling YES or NO.

a. Is there evidence of pallor?

Yes No

b. The entry "Chest: clear to P and A"

(1) rules out pleural effusion.

Yes No

(2) rules out ascites.

Yes No

c. The physical examination contains information that tells you splenomegaly was not present.

Yes No

Answer: Q49

a. No.

b-1. Yes. The entry "Chest: clear to P and A" means that the chest was clear to percussion and to auscultation.

b-2. No. Ascites occurs in the abdominal cavity, not in the chest or pleural cavity.

c. Yes. The entry "ABD: without palp. organs or masses" means that the condition of the organs within the abdominal cavity was examined by palpating the patient, and no enlarged organs were found. The spleen is located in the abdominal cavity. Therefore, the chart entry tells you that splenomegaly was not present.

palpate--To examine by the hand; to feel

In a previous block of instruction, you learned that the term anorexia meant loss or lack of appetite. As you might imagine, if this condition existed for too long, a condition of malnutrition would occur and a general physical wasting of the body might begin. The term cachexia refers to this condition.

The physical examination includes also a determination of whether or not there are any blockages or obstructions noticeable in the circulatory system. (The mechanics of the circulatory system will be discussed in detail in a later manual.) The circulation of the blood involves both arteries and veins throughout the body. Obstructions in the circulatory system may be referred to as arterial obstructions or venous obstructions. Signs of an obstruction of the venous portion of the circulatory system include: dilated or distended veins and/or swelling of the extremities.

An obstruction in the arterial portion of the circulatory system prevents blood from getting to those tissues and cells served by the blocked artery. Thus, the cells and tissues die from lack of oxygen and food. This brings about a condition known as necrosis. You may encounter the term necrosis quite often. Burns or severe injuries also can bring about necrosis. This is a derivation of the word "necropsy."

cachexia--General physical wasting and malnutrition

venous obstruction--Blockage or obstruction in the veins

arterial obstruction--Blockage or obstruction in the arteries

necrosis--Death or decay of cells or tissues in a part of the body

Q50

a. You previously learned the definition of the term <u>hematuria</u>. What is the relationship between this term and the condition known as <u>venous obstruction</u>?

(✓)

☐ 1. They are essentially the same condition.

☐ 2. They are essentially opposite conditions.

☐ 3. They are neither the same nor opposite.

b. A patient was found to have a digestive system disorder resulting in the body not being able to obtain nutritional value from ordinary food. If this condition existed for too long a time, it could lead to a condition known as _____.

Answer: Q50

a. 3--neither the same nor opposite. Hematuria refers to blood in the urine. Venous obstruction refers to a blockage in a vein.

b. Cachexia--general physical wasting and malnutrition

As part of a physical examination, the examining physician notes the ability of the patient to move his or her limbs, the ability to feel, and the ability to speak, remember, see, and hear in a normal fashion. The absence or malfunction of these abilities sometimes is associated with nervous or neurological disorders. Loss of the ability to move parts of the body or to receive sensations will be noted. In many of these instances the chart will state that there seems to be some type of paralysis associated with the cranial nerves, the spinal nerves, or some condition of the brain tissues. Terms used to describe these conditions are as follows:

cranial nerve paralysis--Loss of a physical capability associated with a malfunction of a cranial nerve

paralysis of brain origin--Loss of a physical ability associated with some type of dysfunctioning of brain tissue

spinal cord paralysis--Loss of a function associated with a nerve in the spinal column

You will not be expected to judge when a particular type of paralysis or loss of normal function is associated with a particular nerve or portion of the brain. In some instances, the chart will contain enough specific information to tell you that a loss of function is associated with a particular nerve. In other instances, the chart will say only that a particular type of paralysis exists or that the patient's ability to speak, feel, or remember is impaired.

As cancer progresses, it is not unusual for the lymph nodes around the primary site to become affected. Also, certain types of cancer--Hodgkin's disease, lymphocytic leukemia, and lymphosarcoma--are closely associated with the lymphatic system, especially enlargement of the lymph nodes in the neck and groin and enlargement of the lymphoid tissue of the spleen.

The term <u>lymphadenopathy</u> is used to describe a disease of the lymph nodes:

<u>lymphadenopathy</u>
lympho--a combining form referring to the lymph system
aden(o)--a word root meaning gland
pathy--a suffix meaning disease
(path • y: See page 7)

Definition: Disease of the lymph nodes

Q51

There are many names for lymphomas. You do not have to memorize these names, but you should know how to locate them in your dictionary. Which of the following terms may also be used to describe lymphomas?

(✓)

- ☐ a. Hodgkin's disease
- ☐ b. Lymphosarcoma
- ☐ c. Reticulum cell sarcoma
- ☐ d. All of the above

Answer: Q51

d. All of the above.

All terms are names for different varieties of lymphomas. This is one of the constant problems faced by a tumor registrar. Many medical terms may be used to describe the same or similar conditions. You cannot learn to recognize all these words, so you must learn to be an expert at using a medical dictionary.

POST-TEST ON PHYSICAL FINDINGS

Match the definitions listed on the right with the medical terms listed on the left.

	Term		Definition
_____ 1.	edema	a.	Inflammation of the skin
_____ 2.	cranial nerve paralysis	b.	Abnormal enlargement of the heart
_____ 3.	dermatitis	c.	Abnormal accumulation of serous fluid in connective tissue or serous cavity
_____ 4.	necrosis		
_____ 5.	phonocardiography	d.	Disease of the lymph nodes
_____ 6.	hepatolysis	e.	Blockage in the veins
_____ 7.	percussion	f.	Yellowish pigmentation of the skin, tissues, and body fluids caused by deposition of bile pigments
_____ 8.	adenopathy		
_____ 9.	lymphadenopathy	g.	Enlargement of the liver
_____ 10.	arterial obstruction	h.	Graphic recording of heart sounds
_____ 11.	splenomegaly	i.	The act of listening to sounds within the body to determine the condition of the heart, lungs, and other organs
_____ 12.	ascites		
_____ 13.	pallor	j.	Destruction of liver cells
_____ 14.	venous obstruction	k.	Death or decay of cells or tissues in part of the body
_____ 15.	cachexia		
_____ 16.	pleural effusion	l.	Tapping or striking on the body to determine, from sounds produced, the condition of internal organs
_____ 17.	auscultation		
_____ 18.	spinal cord paralysis	m.	Loss of ability that can be associated with some type of dysfunctioning of brain tissue
_____ 19.	hypersplenism		
_____ 20.	paralysis of brain	n.	Presence of fluid in the pleural space
_____ 21.	cardiomegaly	o.	Blockage in arteries

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_____ 22.	hepatomegaly	p	Disease of glands
_____ 23.	jaundice	q	Loss of a capability that can be associated with a nerve which begins in the spinal column
		r.	Enlargement of the spleen
		s.	General physical wasting and malnutrition
		t.	Accumulation of serous fluid in the abdominal cavity
		u.	Loss of a capability that can be associated with a malfunction of a cranial nerve
		v.	Excessive activity of the spleen
		w.	Paleness, absence of skin coloration

ANSWERS TO POST-TEST

		Term	Definition
__c__	1.	edema	Abnormal accumulation of serous fluid in connective tissue or serous cavity
__u__	2.	cranial nerve paralysis	Loss of a capability that can be associated with a malfunction of a cranial nerve
__a__	3.	dermatitis	Inflammation of the skin
__k__	4.	necrosis	Death or decay of cells or tissues in part of the body
__h__	5.	phonocardiography	Graphic recording of heart sounds
__j__	6.	hepatolysis	Destruction of liver cells
__l__	7.	percussion	Tapping or striking on the body to determine, from sounds produced, the condition of internal organs
__p__	8.	adenopathy	Disease of glands
__d__	9.	lymphadenopathy	Disease of the lymph nodes
__o__	10.	arterial obstruction	Blockage in arteries
__r__	11.	splenomegaly	Enlargement of the spleen
__t__	12.	ascites	Accumulation of serous fluid in the abdominal cavity
__w__	13.	pallor	Paleness, absence of skin coloration
__e__	14.	venous obstruction	Blockage in the veins
__s__	15.	cachexia	General physical wasting and malnutrition
__n__	16.	pleural effusion	Presence of fluid in the pleural space
__i__	17.	auscultation	The act of listening to sounds within the body to determine the condition of the heart, lungs, and other organs

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__g__	18.	spinal cord paralysis	Loss of a capability that can be associated with a nerve which begins in the spinal column
__v__	19.	hypersplenism	Excessive activity of the spleen
__m__	20.	paralysis of brain origin	Loss of ability that can be associated with some type of dysfunctioning of brain tissue
__b__	21.	cardiomegaly	Abnormal enlargement of the heart
__e__	22.	hepatomegaly	Enlargement of the liver
__f__	23.	jaundice	Yellowish pigmentation of the skin, tissues, and body fluids caused by deposition of bile pigments

SECTION G

TUMOR REGISTRAR VOCABULARY: ILLNESSES

In this next block of instruction you will learn the definitions of the terms used to describe illnesses. There are, of course, literally hundreds of names that could be listed in this section. Those names listed are for illnesses that seem to occur with some frequency in persons who have developed cancer.

Information about present and very recent illnesses should be contained in the medical history section of the chart--in particular, the section on present illness. The physical examination (PE) section may contain additional information.

To begin this section, please take the pretest on the next page. This test will identify for you those terms you already understand and those terms which will merit your special attention.

PRETEST

ON ILLNESSES

In this pretest choose the definition on the right that matches the term listed on the left.

	Term		Definition
___	1. allergy	a.	Venereal disease characterized by inflammation of the genital mucous membrane
___	2. bronchiectasis	b.	Pelvic inflammatory disease
___	3. bronchitis	c.	Exaggerated or withdrawn behavior
___	4. cirrhosis	d.	Inflammation of the bronchial tubes
___	5. C.V.A.	e.	High blood pressure
___	6. diabetes mellitus	f.	A metabolic disorder
___	7. emphysema	g.	A broken bone
___	8. gonorrhea	h.	Costovertebral angle or cerebral vascular accident (or stroke)
___	9. hypertension	i.	Malfunctioning of the nervous system
___	10. infection at tumor site	j.	Coagulation necrosis in muscular tissue of the heart
___	11. mental illness	k.	Chronic dilatation of the bronchi
___	12. myasthenia gravis	l.	A state of hypersentivity
___	13. myocardial infarct	m.	A liver disease
___	14. nephritis	n.	Any type of invasion of tissue by microorganisms at or around the tumor site
___	15. neuritis	o.	A chronic shortness of breath
___	16. neurologic disorder	p.	Inflammation of lungs
___	17. P.I.D.	q.	Inflammation of a nerve
___	18. pneumonia	r.	A venereal disease which can affect all tissues of the body
___	19. syphilis	s.	A syndrome of fatigue and exhaustion of the muscular system
___	20. traumatic fracture	t.	Inflammation of the kidney

ANSWERS TO PRETEST

		Term	Definition
l	1.	allergy	A state of hypersensitivity
k	2.	bronchiectasis	Chronic dilatation of the bronchi
d	3.	bronchitis	Inflammation of the bronchial tubes
m	4.	cirrhosis	A liver disease
h	5.	C.V.A.	Costovertebral angle or cerebral vascular accident (or stroke)
f	6.	diabetes mellitus	A metabolic disorder
o	7.	emphysema	Chronic shortness of breath
a	8.	gonorrhea	Venereal disease characterized by inflammation of the genital mucous membrane
e	9.	hypertension	High blood pressure
n	10.	Infection at tumor site	Any type of invasion of tissues by microorganisms at or around the tumor site
c	11.	mental illness	Exaggerated or withdrawn behavior
q	12.	myasthenia gravis	A syndrome of fatigue and exhaustion of the muscular system
j	13.	myocardial infarct	Coagulation necrosis in muscular tissue of heart
t	14.	nephritis	Inflammation of the kidney
g	15.	neuritis	Inflammation of a nerve
i	16.	neurologic disorder	Malfunctioning of the nervous system
b	17.	P.I.D.	Pelvic inflammatory disease
p	18.	pneumonia	Inflammation of the lungs
r	19.	syphilis	Venereal disease which can affect all tissues of the body
s	20.	traumatic fracture	A broken bone

Following are the names for six illnesses associated with the respiratory system:

Term	Definition
allergy	A state of hypersensitivity to certain things, such as pollen, food, animals, etc., usually characterized by difficult respiration, skin rashes, etc.
bronchiectasis	A chronic dilatation of the bronchi marked by fetid breath and paroxysmal coughing with the expectoration of mucopurulent matter
emphysema	A swelling or inflation of the lung(s) due to the presence of trapped air. Condition makes for chronic shortness of breath
pneumonia	Inflammation of the lungs
tuberculosis	A highly variable communicable disease caused by tubercle bacilli and characterized by toxic symptoms or allergic manifestations which in man primarily affect the lungs
atelectasis	Collapse of the adult lung, or, the incomplete expansion of the lungs at birth

Q52

1. You have already studied the suffix -ectasis. The meaning of this suffix is:

(✓)

☐ a. dilatation of

☐ b. contraction of

☐ c. neither

2. List two sources within a medical chart where information about present or recent illnesses might be found.

a._____

b._____

Answer: Q52

1. a--dilatation of

2. The medical history and physical examination sections of the chart should contain information about present illnesses. Other possible sources of information are patient referral letters, the discharge summary, and the operative report.

Q53

A medical chart noted the presence of a severe asthmatic attack one week prior to admission. Would this most likely be due to allergy, bronchiectasis, emphysema, or another condition (specify)?

_____
(fill in)

Answer: Q53

Asthma is an allergy, a state of hypersensitivity to certain things such as pollen, food, animals, and so forth.

On many charts the common or technical name will be used to describe the illness, and you will have no diffuculty recognizing it. On other charts the description of the illness will be similar to that of the dictionary definition. For these charts you should have little difficulty. There will be still other charts where the description is not complete enough to say with assurance that the description is that of a particular illness.

Q54

Recently the patient began to suffer pain and swelling in both knees with loss of mobility. Blood analysis revealed an excess of uric acid in the blood. Select the item which describes this condition.

(✓)

- [ ] a. Infection at tumor site
- [ ] b. Neuritis
- [ ] c. Pelvic infection
- [ ] d. None of these

Answer: Q54

d - None of these

Neither infection nor inflamation (neuritis) is accompanied by an excess of uric acid and swelling of both knees. These may be symptoms of gout.

Q55

Recently a male patient began to spit up blood. Also, he has experienced shortness of breath and, in general, has been having difficulty breathing. A physical examination of the lungs revealed obstruction in the passage of air. The patient's breath was fetid (bad smelling, stinking), and he admitted to severe coughing spells in recent days.

This paragraph describes:

(✓)

☐ a. bronchiectasis

☐ b. emphysema

☐ c. pneumonia

☐ d. other

☐ e. none of these

Answer: Q55

a--bronchiectasis. The description of fetid breath and severe coughing spells fits the definition of bronchiectasis. A patient with emphysema will experience a chronic shortness of breath since he is unable to take a "deep" breath. However, his breath need not be fetid, and he may not experience coughing spells.

When a cancer patient has other concurrent illnesses, these usually will be mentioned in the chart. Read the following paragraph that describes a patient with lung cancer.

Q56

This is the first admission for this 55 year-old white male. He appears in general good health. For the past 2 weeks he has experienced dysphagia and occasional hemoptysis. Four days ago he had a severe asthmatic attack relieved only after receiving adrenalin. X-rays show a carcinoma of the bronchus.

What other illnesses does the patient have?

_____

Answer: Q56

Allergy. Asthma is an allergy--a state of hypersensitivity (like hay fever) to certain things, such as pollen, food, animals, etc.

Q57

Now let's see if you can recognize the meaning of the five terms we have covered so far.

_____ 1.	bronchiectasis	a. Inflammation of the lung
_____ 2.	emphysema	b. Chronic dilatation of the bronchi with fetid breath and coughing spells
_____ 3.	pneumonia	c. State of hypersensitivity to certain things
_____ 4.	tuberculosis	d. Swelling or inflation of the lung(s) due to presence of trapped air; chronic shortness of breath
_____ 5.	allergy	e. Communicable disease caused by tubercle bacilli primarily affecting the lungs

Answer: Q57

__b__	1. bronchiectasis	Chronic dilatation of the bronchi with fetid breath and coughing spells
__d__	2. emphysema	Swelling or inflation of the lung(s) due to presence of trapped air; chronic shortness of breath
__a__	3. pneumonia	Inflammation of the lung
__e__	4. tuberculosis	Communicable disease caused by tubercle bacilli primarily affecting the lungs
__c__	5. allergy	State of hypersensitivity to certain things

The next three terms to be covered are hypertension, myocardial infarct, and peripheral vascular disease. These, of course, are all associated with illnesses of the heart and circulatory system. These three terms with their defintions are as follows:

Terms	Definition
hypertension	Another name for high blood pressure
myocardial infarct	The formation of an infarct (an area of coagulation necrosis in a tissue) in the myocardium as a result of interruption of the blood supply to the area
peripheral vascular disease	Any disease of the vessels which carry blood or lymph to or from the peripheral regions of the body

You should experience no difficulty determining whether or not a patient had one or more of the above conditions. Hypertension and myocardial infarct undoubtedly will be mentioned quite prominently in some portion of the history section. So, assume that a patient had a chief complaint relating to a bone malignancy. Assume also that the patient had a history of hypertension.

Q58

Where would this condition of hypertension be mentioned in the chart?

(✓)

- ☐ a. Chief complaint section
- ☐ b. Previous medical history
- ☐ c. Review of systems
- ☐ d. Physical examination

Answer: Q58

Alternatives b, c, and d are correct. For most patients who have hypertension, mention of this is made in the previous medical history section, the review of systems section, and/or the physical examination section.

Q 59

A 63 year-old male was diagnosed as having carcinoma of the esophagus with metastatic lesions in the lung. The condition had progressed to a point where an x-ray examination showed a chronic dilatation of the bronchi of the lung. In addition, the medical history reported that the patient had suffered a coronary thrombosis within the past month.

How might the above information be described?

_____

_____

Answer: Q59

Bronchiectasis, which means a chronic dilatation of the bronchi. Myocardial infarct or coronary thrombosis is defined as the formation of a clot in a coronary artery, obstructing the flow of blood and causing infarction of the myocardium supplied by the vessel.

Q60

Malignant neoplasms can originate in nervous tissue or they can invade nervous tissue by direct extension of the tumor. The result can be a variety of conditions and illnesses directly or indirectly related to the nervous system. The names and definitions for three such conditions follow:

Term	Definition
neuritis	Inflammation of a nerve. The condition is attended by pain and tenderness over the nerves, by anesthesia and paresthesia, paralysis, wasting, and disappearance of the reflexes.
neurologic disorder	A disease or malfunctioning of the nervous system which might lead to conditions such as abnormal coordination, gait, memory deficit, etc.
myasthenia gravis	A syndrome of fatigue and exhaustion of the muscular system marked by progressive paralysis of muscles without sensory disturbance or atrophy; occurs especially in muscles of the face, lips, tongue, throat, and neck.

What symptoms or physical findings would you find for myasthenia gravis?_____

_____

_____

Answer: Q60

Symptoms: weakness or fatigue, fainting spells; weakness, fatigue of muscles; motor weakness

Physical findings: Partial paralysis of muscles of face and neck

Several other conditions and diseases occur with some frequency in cancer patients. The terms and definitions are listed below:

Term	Definition
burns in primary site area	Certain types of skin cancer seem to be related to burns. Therefore, it is important to note whether or not the patient was burned in the area around the primary site of a skin cancer.
cystic mastitis (chronic cystic mastitis)	This is a disease of the breast characterized by cyst formation which gives a nodular feel to the organ.
leukoplakia, leukoplasia	It is a disease marked by the development upon a mucous membrane (most commonly of the cheeks, gums, or tongue) of white, thickening patches which sometimes show a tendency to fissure. It is common in smokers and sometimes becomes malignant.
polyposis of GI tract polyposis gastrica polyposis intestinalis	The presence of multiple polyps in the GI tract; the presence of multiple polyps on the gastric mucosa; a condition in which polyps occur in the intestine and rectum
pernicious anemia	This condition is characterized by the reduced ability to absorb vitamin B12 from the gastrointestinal tract due to a failure of gastric mucosal secretion of intrinsic factor; often associated with gastric cancer.
ulcerative colitis	Chronic ulceration in the colon
villous adenomas of the colon	Colon tumors that seem to be associated with the protrusion of small blood vessels on the mucosa of the large intestine and rectum giving a velvet-like surface (Look up villous in your dictionary.)

POST-TEST ON PHYSICAL FINDINGS

Choose the definition on the right which matches the term listed on the left.

	Term		Definition
____	1. allergy	a.	Venereal disease characterized by inflammation of the genital mucous membrane
____	2. bronchiectasis	b.	Pelvic inflammatory disease
____	3. bronchitis	c.	Exaggerated or withdrawn behavior
____	4. cirrhosis	d.	Inflammation of the bronchial tubes
____	5. C.V.A.	e.	High blood pressure
____	6. diabetes mellitus	f.	A metabolic disorder
____	7. emphysema	g.	A broken bone
____	8. gonorrhea	h.	Costovertebral angle or cerebral vascular accident (or stroke)
____	9. hypertension	i.	Malfunctioning of the nervous system
____	10. infection at tumor site	j.	Coagulation necrosis in muscular tissue of the heart
____	11. mental illness	k.	Chronic dilatation of the bronchi
____	12. myasthenia gravis	l.	A state of hypersensitivity
____	13. myocardial infarct	m.	A liver disease
____	14. nephritis	n.	Tissue invasion by microorganisms
____	15. neuritis	o.	A chronic shortness of breath
____	16. neurologic disorder	p.	Inflammation of the lungs
____	17. P.I.D.	q.	Inflammation of a nerve
____	18. pneumonia	r.	A venereal disease which can affect all tissues of the body
____	19. syphilis	s.	Muscular fatigue and exhaustion
____	20. traumatic fracture	t.	Inflammation of the kidney

ANSWERS TO POST-TEST

	Term	Definition
__l__ 1.	allergy	A state of hypersensitivity to certain things, such as, pollen, food, and animals, usually characterized by difficult respiration, skin rashes, etc.
__k__ 2.	bronchiectasis	A chronic dilatation of the bronchi marked by fetid breath and paroxysmal coughing, with the expectoration of mucopurulent matter
__d__ 3.	bronchitis	Inflammation of the bronchial tubes
__m__ 4.	cirrhosis	A disease of the liver
__h__ 5.	C.V.A.	Costovertebral angle or cerebral vascular accident (depends on sense of sentence)
__f__ 6.	diabetes mellitus	A metabolic disorder in which the ability to use carbohydrates is lost, and an increased amount of sugar in the blood and urine occurs
__o__ 7.	emphysema	A swelling or inflation of the lungs due to the presence of trapped air. Condition makes for chronic shortness of breath.
__a__ 8.	gonorrhea	A contagious venereal inflammation of the genital mucous membrane, transmitted chiefly by intercourse
__e__ 9.	hypertension	High blood pressure
__n__ 10.	infection at tumor site	Any type of invasion of tissues at or around the tumor site by microorganisms
__c__ 11.	mental illness	Any type of overly exaggerated or withdrawn type of behavior, atypical of the patient and classified as neurotic and psychotic
__g__ 12.	myasthenia gravis	A syndrome of fatigue and exhaustion of the muscular system marked by progressive paralysis of muscles without sensory disturbance or atrophy; occurs especially in muscles of the face, lips, tongue, throat, and neck

Con't on next page

__i__	13.	myocardial infarct	The formation of an infarct (an area of coagulation necrosis in a tissue) in the myocardium, as a result of interruption of the blood supply to the area, as in coronary thrombosis
__t__	14.	nephritis	Inflammation of the kidney
__q__	15.	neuritis	Inflammation of a nerve. The condition is attended by pain and tenderness over the nerves, by anesthesia and paresthesia, paralysis, wasting, and disappearance of the reflexes
__i__	16.	neurologic disorder	A disease of malfunctioning of the nervous system which might lead to any of these symptoms: abnormal coordination, abnormal gait, memory deficit, etc.
__b__	17.	P.I.D.	Pelvic inflammatory disease
__p__	18.	pneumonia	Inflammation of the lungs
__r__	19.	syphilis	A contagious venereal disease leading to many structural cutaneous lesions. It can extend to the skin, mucosa, and to nearly all the tissues of the body, even to the bones and periosteum.
__g__	20.	traumatic fracture	The breaking of a bone

SECTION H

ACRONYMS, ABBREVIATIONS, AND SYMBOLS USED IN MEDICAL CHARTS

Medical charts can be very difficult to read and comprehend. Often the handwriting is almost illegible, and the widespread use of symbols and abbreviations has reached a point where a handy reference is a necessity. Several such references are listed in the selected bibliography.

You will find that reading a medical chart becomes easier as you learn the meaning of the technical terms associated with cancer. Many words that are not clearly written will make sense to you because you will be able to recognize enough of the word to determine it accurately. You must also be able to recognize the meaning of the common symbols and abbreviations used in a chart. These symbols and abbreviations are a useful speedwriting technique for the tumor registrar as well as for the medical staff. However, when there is any possibility of confusion, words should be written out.

The style of abbreviation for a term may vary slightly in different texts. For example, periods may or may not be used between letters; capital or small letters may be used. Remember, you often will have to read the content to understand the meaning of the abbreviation. Variation in use of periods and capitalizations is frequent and widespread (as A.M., AM, a.m., am). Most of the following abbreviations have been normalized to one form. The current trend is to write abbreviations in capital letters without periods except where understanding or common usage dictate otherwise.

CAUTION: The examples below do not include all the possible meanings for each acronym, abbreviation, or symbol; and the abbreviations will not necessarily be those used in your hospital. You will have to determine your local usage.

Abbreviation	Meaning
A	accommodation; ampere; anode; agua; artery
ab	abort; abortion; miscarry
A & W	alive and well
abd; abdom	abdomen
ac	before meals (ante cibum)
ACS	American College of Surgeons; American Cancer Society
ACTH	adrenocorticotrophic hormone
AD	right ear (auris dextra)
adenoca	adenocarcinoma
ad lib	as desired (ad libitum)
adm	admission
AFB	acid-fast bacilli
AFIP	Armed Forces Institute of Pathology
$AgNO_3$	silver nitrate
A/G ratio	albumin-globulin ratio
AHA	American Hospital Association
alb	albumin
alk phos	alkaline phosphatase
ALL	acute lymphocytic leukemia
AM	before noon (ante meridian)
AMA	American Medical Association
AML	acute myelocytic leukemia
amp	ampule; amphere
anes	anesthesia
ANT; ant	anterior

Abbreviation	Meaning
ante	before
AP	abdominal perineal; anterior-posterior
aq	water (aqua)
ARD	acute respiratory disease
AS	left ear (auris sinistra); aortic stenosis
ASCVHD	arteriosclerotic cardiovascular heart disease
ASHD	arteriosclerotic heart disease
AUT	autopsy
Ba	barium
BCC	basal cell carcinoma
BCG	Bacillus of Calmette and Guerin
BE	barium enema
bid	twice a day (bis in die)
bilat	bilateral
BMR	basal metabolism rate
BM	bowel movement
BP	blood pressure
BPH	benign prostatic hypertrophy
BSO	bilateral salpingo-oophorectomy
BSP	bromsulphalein test
B.T.	brain tumor
BUN	blood urea nitrogen
Bx	biopsy
C	centigrade

Abbreviation	Meaning
c	with (cum)
C; C; etc.	first cervical vertebra; second cervical vertebra; etc.
Ca	calcium
CA; Ca	carcinoma
cap	capsule
cath	catheter; catheterization
CBC	complete blood count
cc	cubic centimeter
C.C.	chief complaint
CCU	coronary care unit
CEA	carcinoembryonic antigen
CHF	congestive heart failure
chr	chronic
CIS	carcinoma in situ
CLL	chronic lymphocytic leukemia
cm	centimeter; costal margin
CML	chronic myelocytic leukemia
CNS	central nervous system
CO_2	carbon dioxide
Co60	Cobalt 60
cor	heart
Cs	cesium
CSF	cerebrospinal fluid
CVA	cerebro vascular accident; costovertebral angle
Cx	cervix
CXR	chest x-ray

Abbreviation	Meaning
cysto	cystoscopy
cyto	cytology
D_1; D_2; ect.	first dorsal vertebra; second dorsal vertebra; etc.
D & C	dilatation and curettage
dc	discharge; discontinue
DERM; Derm	Dermatology
DD	discharge diagnosis
diff	differentiated; differential
DNA	deoxyribonucleic acid
D.O.	doctor of osteopathy
DOA	dead on arrival
DOB	date of birth
DOD	date of death
DOE	dyspnea on exertion
DTR	deep tendon reflex
Dx	diagnosis
ECF	extended care facility
ECG (EKG)	electrocardiogram
EEG	electroencephalogram
EMG	electromyogram
ENT	ear, nose, throat
EPA	erect, posterior, anterior (standing)
ER	Emergency room
EST	electroshock therapy
EUA	exam under anesthesia

Abbreviation	Meaning
EXAM; exam	examination
EXC	excision
EXPL LAP; expl lap	exploratory laparotomy
F	fahrenheit
FACP	Fellow, American College of Physicians
FACS	Fellow, American College of Surgeons
fb	fingerbreadth
FBS	fasting blood sugar
F.H.	family history
fl	fluid
fluoro	fluoroscopy
FP	flat plate
FUO	fever of undetermined origin
GA	gastric analysis
GB	gallbladder
gen	generalized
GI	gastrointestinal
gm	gram
GP	general practitioner
gr	grain(s)
GU	genitourinary
GYN; gyn	gynecology
h	hour
Hb; Hgb	hemoglobin
hct	hematocrit

Abbreviation	Meaning
HCVD	hypertensive cardiovascular disease
HD	Hodgkin's Disease; at bedtime (hora decibus); hearing distance
HEENT	Head, ear, eyes, nose, throat
HN_2	nitrogen mustard
H_2O	water
hosp	hospital
hpf	high power field
h.s.	at bedtime (hora somni)
HVD	hypertensive vascular disease
Hx	history
ICD	International Classification of Diseases
ICS	Intercostal space
ICU	intensive care unit
Ig	Immunoglobulin
IM	intramuscular
inf	infusion; infraction; inferior
inj	injection
Int. Med.	Internal Medicine
IPPB	intermittent positive pressure breathing
IMP	impression
IV	Intravenous
IVP	intravenous pyelogram
K	potassium
Kg; kg	kilogram

Abbreviation	Meaning
kj	knee jerk
kk	knee kick
KUB	kidneys, ureters, bladder
kv	kilovolt
L	lower
L, l, lt	left
L_1; L_2; etc.	first lumbar vertebra; second lumbar vertebra; etc.
lap	laparotomy
LAT; lat	lateral
LCM	left costal margin
LDH	lactic dehydrogenase
LFT	liver function test
LIF	left iliac fossa
Linac	linear accelerator
LIQ	lower inner quadrant (breast)
LLL	left lower lobe
LLQ	left lower quadrant (abdomen)
LMD	local medical doctor
LMP	last menstrual period
LN; l.n.	lymph node
LOQ	lower outer quadrant (breast)
L.P.	lumbar puncture
lpf	low power field
LPN	Liscensed practical nurse
LS	lumbosacral
LSK; LKS	liver, spleen, kidneys
LUL	left upper lobe

Abbreviation	Meaning
LUO	left upper quadrant (abdomen)
L & W	living and well
m	monocytes; meter
malig	malignant
mast	mastectomy
mc	millicurie
MCH	mean corpuscular hemoglobin
MCHC	mean corpuscular hemoglobin count
MCL	mid clavicular line
MCV	mean corpuscular volume
MD	Doctor of Medicine
mEq/l	milliequivalent per liter
met; metas	metastasis; metastases; metastatic
mev	million electron volts
mg	milligram
mgh	milligram hour
MH	marital history; mental health
micro (See μ)	microscopic
MI	myocardial infarction; mitral insufficiency
mm	millimeter
mod	moderate(ly); modified
MS	morphine sulphate; multiple sclerosis; mitral stenosis
MSL	mid sternal line
MX; Mx	microscopic

Abbreviation	Meaning
Na	sodium
NA	not applicable
NaCl	sodium chloride (common salt)
NBS	normal bowel or breath sounds
NCI	National Cancer Institute
NEC	not elsewhere classified
NED	no evidence of disease
neg	negative
NERD	no evidence of recurrent disease
NERRD	no evidence of recurrent; residual disease
NEURO	Neurology
noct.	nocternal (at night)
n/f	negro female
n/m	negro male
NOS	not otherwise specified
NPO	nothing by mouth (per os)
NR	not reportable
NTP	normal temperature and pressure
N & V	nausea and vomiting
OB	obstetrics
O.D.	right eye (oculus dexter)
O.H.	occupational history
op	operation
OP	outpatient
OPC	outpatient clinic

Abbreviation	Meaning
OPD	outpatient department
OPHTH	ophthalmology
OR	operating room
ORTH	orthopedics
os	opening; mouth; bone
OSTEO	osteomyelitis
O.S.	left eye (oculus sinister)
O.T.	occupational therapy
OTO	otology
O.U.	each eye (oculus uterque)
OV	office visit
oz	ounce
P	pulse
PA	posterio-anterior
P & A	percussion & auscultation
palp	palpable; palpation
PAP	Papanicolaou test or smear
PAR	post anesthesia room
para	number of pregnancies resulting in viable infants
path	pathology
p.c.	after meals (post cibum)
PCV	packed cell volume
PDR	Physicians' Desk Reference
PE	physical examination
PED(s)	pediatrics
PEG	pneumoencephalography

Abbreviation	Meaning
PERRLA	pupils equal, round, react to light and accomodation
PH	past or personal history
PI	present illness
PM	post mortem (after death); petit mal; physical medicine; afternoon (post meridian)
PID	pelvic inflammatory disease
PMD	private medical doctor
PMH	past medical history
PND	paroxysmal night dyspnea; post-nasal drip
p.o.	by mouth (per os)
PO; postop	postoperative
pos	positive
PPD	purified protein derivative (tuberculin skin test)
preop	preoperative
prn	whenever necessary (pro re nata)
pt	patient
PT	physiotherapy
PTA	prior to admission
PUO	pyrexia of undetermined origin
Q	quadrant
q	every (quaque)
qd	every day (quaque die)
qid	four times a day (quater in die)

Abbreviation	Meaning
qn	every night (quaque nox)
R	Roentgen; respiration; rectal red; repressor; resistance; response; review
R, r, rt	right
Ra	radium
rad	radical; rads
RAIU	radioactive iodine (I 131) uptake
RBC	red blood cells or count
RCM	right costal margin
RCS	reticulum cell sarcoma
REG	radioencephalogram
RES	reticuloendothelial system
Rh	Rhesus (monkey) factor in blood
RIF	right iliac fossa
RIQ	Right inner quadrant (abdomen)
RLL	right lower lobe
RML	right middle lobe
RN	Registered nurse
RNA	ribonucleic acid
ROM	range of motion
ROQ	right outer quadrant (abdomen)
ROS	review of systems; review of slides
R-S cells	Reed-Sternberg cells
RT	radiation therapy
R-V	rectovaginal
Rx	treatment; therapy
$\bar{s}$	without (sine)

Abbreviation	Meaning
Sa; sarc	sarcoma
SBE	subacute bacterial endocarditis
SGOT	serum glutamic oxaloacetic transaminase
SGPT	serum glutamic pyruvic transaminase
SH	social history; serum hepatitis
SOB	shortness of breath
sol	solution
sp. gr	specific gravity
sq cell ca	squamous cell carcinoma
SR	sedimentation rate
Staph	Staphylococcus
stat	immediately (statim)
Strep	Streptococcus
sub-q	subcutaneous
Surg.	Surgery
SVC	superior vena cava
Sx	symptoms
T	temperature
T_1; T_2; etc.	first thoracic vertebra; second thoracic vertebra; etc.
TA	toxin-antitoxin
T & A	tonsillectomy and adenoidectomy
tab	tablet
TAH	total abdominal hysterectomy
TB; tbc	tuberculosis
TD	tumor dose

Abbreviation	Meaning
tid	three times a day (ter in die)
TP	total protein
TPR	temperature, pulse and respiration
TS	tumor size
TSH	thyroid stimulating hormone
TUR	transurethral resection
U	unit
UCHD	usual childhood disease
UGI	upper gastrointestinal series
UIQ	upper inner quadrant (breast)
umb	navel (umbilicus)
ung	ointment (unguentum)
undiff	undifferentiated
UOQ	upper outer quadrant (breast)
Ur	urine
URI	upper respiratory infection
urol	urology
USP	United States Pharmacopeia
USPHS	United States Public Health Service
VS	vital signs
WBC	white blood cells or count
w/d	well developed
w/f	white female
w/m	white male
w/n	well nourished
WNL	within normal limits

Abbreviation	Meaning
wt	weight
x	times
VD	venereal disease
y/o	year old
1°	primary
2°	secondary
♀	female
♂	male
↑	increased
↓	decreased
-	negative
+	positive
μc	microcurie
μg	microgram

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INDEX

GLOSSARY OF PREFIXES, SUFFIXES, ROOT WORDS, AND MEDICAL TERMS

COMBINING FORMS: 11, 43 (See also Word roots)

PREFIXES:

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dys, 10, 63-72
en, 10
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extra, 64-66
hemi, 8
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hypo, 8-10, 64-65
inter, 64-65
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peri, 4, 10
pro, 8-9, 18

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